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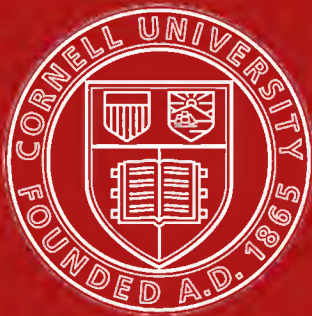
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REPORTS AND PAPERS :

ON

IMPURITIES IN INDIAN WHEATS,

1888-89.

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Presented to both Houses of Parliament by Command of Her Majesty.

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# Report on Impurities in Indian Wheats. No. 1.

10, Mark Lane, London, E.C.,  
22nd August 1888.

Sir,

We have carefully considered the memorandum of 1st June 1888 (Appendix A) sent to us, respecting the dirt and impurities in Indian wheats, together with the Proceedings of the Lieutenant Governor of Bengal, No. 1265, Agriculture (Appendix B).

The forms of contract used in the United Kingdom in the sale of Indian wheats stipulates that the quality shall be of fair average quality (f. a. q.) of that month's shipment, and do not make any mention of a 5 per cent. refraction.

The Corn Trade Association arranges, with dock companies and others, to draw samples from each parcel received at the different ports, and from these samples the month's average is then mixed and prepared.

Sales are generally made in lots of 100 tons each, and in shipping a Bill of Lading is made for each 100 tons, this having been found a convenient quantity.

A very considerable trade is now done in buying and reselling Indian wheats on the f. a. q. basis.

This helps to explain how it is that any parcel of special quality would receive little or no attention. Such parcel would have to be sold by sample, and each buyer would have to inspect and pass on the sample, the first seller would have to seal it, and there would be much trouble and uncertainty if the parcel were sold several times. Thus the objection of the merchants and millers would be to selling or buying each parcel by its own special sample.

If regular supplies of clean wheat could be ensured, there is not the slightest doubt but that they would much prefer, and would gladly pay for, clean wheats.

We have personally inquired of many millers and dealers, and, without exception, they express a desire for clean wheat, some remarking, "Do you not think we should give a less price for Australian wheats if they contained dirt?"

Many of the largest millers have met the difficulty by erecting extensive washing and cleaning machinery, which gives them somewhat of an advantage, and so are willing that Indian wheats should continue as at present, but many millers are prevented using Indian wheats by the need of such machinery. This, we are informed, is still more the case on the Continent.

During the last year or two special samples of "selected Bombay" wheat have been offered upon the market, and command higher prices than No. 1, Bombay.

They are guaranteed to contain—

|                                   |   |
|-----------------------------------|---|
| 94 per cent. of white wheat       | } 6d. to 9d. higher price than<br>No. 1, Bombay.  |
| 4 per cent. of red wheat          |   |
| Not more than 2 per cent. of dirt |   |
| 92 per cent. of white wheat       | } 4½d. to 6d. higher price than<br>No. 1, Bombay. |
| 6 per cent. of red wheat          |   |
| Not more than 2 per cent. of dirt |   |

It is important that different kinds of wheat should as much as possible be kept separate. The admixture of hard and soft, and white and red wheats prevents the miller using each to best advantage. Red wheat mixed with white prevents the white from being used for the finest flours. Hard wheats require damping to a much greater extent than the soft, so that if mixed together one is always either too much or the other too little damped.

A remarkable point about the exportation of Indian wheats is that shipments of new wheat, *i.e.*, those shipped March, April, and May, are so very superior to those shipped later in the season, *i.e.*, August, September, and October. These latter are often so disappointing to millers who have expected to receive bulks equal to early shipments that it has forced many to decline to deal in these latter shipments, for if the whole of a month's shipments were of low quality there would be no allowance on the f. a. q. terms.

The poor quality of the late shipments may arise from the storing of wheat in pits, some part of the wheat is almost certain to be damaged, and also gets a further admixture of dirt. A remedy for this would be to store the wheat in properly constructed public granaries until required for shipment.

Large seeds, such as gram and peas, are easily removed by sifting, and also the small seeds, such as linseed and rape, but it is almost impossible to separate such seeds as barley, &c., they being about the same size as wheat.

The presence of stones is the greatest difficulty the miller has to contend with, and these are found in the red Bombay and Atbara wheats.

If you think it desirable, we should have pleasure in getting all the different average samples of Indian wheats as received in London, and make a careful analysis and report to you the percentage of all admixture other than wheat.

We do not refer to the means to be employed in separating and cleaning wheats. We keep only to the point you particularly raise, viz., Would clean wheat have a better sale than dirty?

The information we have gathered is unanimous on the following points:—

1. Clean Indian wheats are much desired.
2. Extra price would be paid for clean wheats.
3. Clean wheats would cause much increased use.
4. Wheats carefully selected should be as near as possible of one sort, being then more valuable than when mixed together.
5. That the practice of mixing dirt and seeds is most detrimental to the practical value of Indian wheats, and urgent steps should be taken against it.

We are, &c.,

(Signed) McDougall Bros.

The Under Secretary of State  
for India.

---

*Copy of Contract Form.*

**London Corn Trade Association.**

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FORM 1.

EAST INDIAN WHEAT CONTRACT.

Entered at Stationers' Hall,  
(Revised 2nd January 1888.)

London, 27th April 1888.

\*Bought of A. B.

of Lambeth.

Domiciled in London

on the printed rules endorsed on the back of this contract, about 100 tons of wheat in bags (2 per cent. more or less) say one hundred tons of Number Two Club Calcutta wheat, to be at time and place of shipment, of fair average quality of the season's shipments when shipped, crop 1888, shipping, shipped, or to be shipped per one or more first class steamer or steamers not lower than A 1 in red English, 5/6 1 1 French Veritas, or equal classification in Austrian, Norwegian, Italian, or other equal Register (Greeks and Turks excepted), from Calcutta, via the Canal, shipment made, or to be made, and Bill or Bills of Lading to be dated during June and/or July 1888, reckoning provisionally 2,730 Bazaar maunds of 82 lbs. English, equal to 100 tons, at the price of 31s. 4½d. less 2 per cent., say thirty-one shillings and fourpence halfpenny, less two per cent., per 492 lbs. net delivered, including Freight, as per Bill or Bills of Lading, and Insurance to London, and including the usual double gunny, or double Borneo Company's bags, or bags equal in value thereto. No charge for Dunnage. To discharge as customary, and as per Bill or Bills of Lading. Payment, cash in London, within seven days from the day on which Invoice is handed, less discount for the unexpired term of three months from date of Bill or Bills of Lading at Bank rate of the day on which payment is made, but not less than 5 per cent. per annum, in exchange for Bill or Bills of Lading and Policies of Insurance (free of war risk) effected with approved underwriters, but for whose solvency sellers are not responsible.

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\* The portion of the above form filled up in writing is shown in italics.

The Company in whose Dock the ship discharges shall be ordered to weigh at Buyer's expense one sound and undamaged bag in every 20 as they rise from ship or quay, or every bag, at Buyer's option, and two in every 100 shall be emptied to ascertain the tare (the whole of said bags being weighed together), and the Dock Certificate shall settle the weight for final Invoice. Should Buyer elect to have one bag in every 20 weighed for average, then slack bags to be weighed separately. All sea-water damaged and sweepings to be rejected.

Seller to pay our Brokerage of *half* per cent., on the gross provisional Invoice amount, contract cancelled or not cancelled.

Seller to give Policy or Policies of Insurance for 2 per cent. over the net Invoice amount, plus the  $2\frac{1}{2}$  per cent. on the gross Invoice amount, and any amount over this to be for Seller's account. All average to be for Seller's account, Buyer in such case to return Policies to Seller, and to furnish him with the usual documents required by average adjusters for preparation of average statement on settlement of final invoice.

In case of prohibition of export, blockade, or war preventing shipment, this contract or any unfulfilled part thereof to be cancelled.

Buyer and Seller agree that, for the purposes of proceedings either legal or by arbitration, this contract shall be deemed to have been made in England, to be performed there, any correspondence in reference to the offer, the acceptance, the place of payment or otherwise notwithstanding, and the Courts of England or Arbitrators appointed in England, as the case may be, shall have exclusive jurisdiction over all disputes which may arise under this contract. Such disputes shall be settled according to the law of England whatsoever the domicile of the parties to this contract may be or become. Any party to this contract residing in a foreign country shall, for the purposes of proceedings, be considered as residing at the Consulate in London of the country of his residence, and the service of proceedings at such Consulate and the posting of a copy of such proceedings to the address abroad of the party in question shall be deemed good service, any rule of law notwithstanding. This clause shall not be applicable to parties residing within the United Kingdom.

Difference in quality shall not entitle the Buyer to reject, except under the award of Arbitrators or the Committee of Appeal, as the case may be. All disputes from time to time arising out of this contract shall be referred, according to the 15th printed rule endorsed on this contract, and this stipulation may be made a rule of any of the Divisions of Her Majesty's High Court of Justice in England or in Ireland, or an order of the Court of Session in Scotland, on the application of either contracting party, and neither Buyer nor Seller shall bring any action against the other of them in respect of any such dispute except for an amount so settled by Arbitration, or by the Committee of Appeal, as the case may be, and it is expressly agreed that the obtaining an award from either tribunal, as the case may be, shall be a condition precedent to the right of either contracting party to sue the other in respect of any claim arising out of this contract.

---

Deposit clause.—Buyers have option of paying as within, or by a deposit of 5s. per quarter within seven days after receipt of invoice and notice that documents are ready, and balance on arrival of vessel or expiry of prompt, whichever happens first.

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## RULES.

1. *Provisional Invoice*, with ship's name, marks, number of bags, and date of Bill of Lading, shall be handed by the seller to his buyer within 35 days for shipments by steamer, and 40 days for shipments by sailing vessel, from date of Bill of Lading, and by the subsequent sellers in due course, unless arrival of Mail Steamer be delayed by unforeseen circumstances. If documents are tendered within the time stipulated, but after arrival of the Steamer to which the tender refers, landing charges incurred shall be borne by seller. No more than two appropriations shall be made on each 100 tons of wheat. A tender to the buying broker to be deemed a tender within the terms of this contract; all buyers not employing a

London broker, to name in their contract a domicile in London where tenders may be made. The name of the original seller shall be inscribed on each invoice. In the event of a tender being of less quantity than 25 tons, the Dock Company's consolidated rate of charges shall be deducted from the invoice upon such quantity.

2. *Bill of Lading* to be considered proof of date of shipment in the absence of evidence to the contrary. Each shipment to be considered a separate contract. In the event of shipment by steamer to London, and the owner of the steamer refusing to contribute the 1s. per ton in accordance with the Dock rates of 1877, the said 1s. per ton shall be paid by the Seller.

3. *Notice to retire Documents* shall be given by the last buyer to the original seller, and also to his seller, before 11.45 a.m. on the day of payment.

4. *Rejections and Differences in Weights* shall be settled at the cost, freight, and insurance market value, of the quality guaranteed, on the day on which delivery order for rejections and/or Dock warrant is tendered, or, if not a market day, the previous market day. The claim for settlement to be made within 21 days of the receipt of the Dock Company's final return.

5. *Marks*.—Any deviation of marks from B/L or invoice not to be objected to, so long as quality comes within terms of contract, and the bags bear the *bona fide* mark of the shippers. Any expenses incurred in landing and assorting deviating marks to be borne by original seller.

6. *Sea Damaged*.—Receiver shall and first seller may give orders to the Dock Company in whose Dock vessel discharges to sort by outward appearance. Water stained bags not caked or crusted shall be stabbed, and if the wheat be uninjured by sea water the same shall be received by buyer.

7. *Samples* to be drawn by the Dock Company in whose Dock the ship discharges, from two or more sound bags in every hundred, as they rise from the ship. Should either seller or buyer require more than two bags sampled in every hundred, the extra expense to be borne by the party giving such orders. The sealed Dock sample to be taken as correct and final in the case of arbitration.

8. *Weights*.—Docks to weigh in all cases for average. If after 21 days of final discharge no other Dock Certificate be produced, the average weights shall be final.

9. *In default* of fulfilment of contract, either party, at his discretion, shall, after giving notice, have the right of re-sale or re-purchase, as the case may be, and the defaulter shall make good the loss, if any, by such re-purchase or re-sale, on demand.

10. *Quality*.—Should it be decided by arbitration that the wheat shipped is of a distinctly different description to that guaranteed in this contract, seller shall, if required, receive the wheat back at the cost, freight, and insurance market value of the day on which the award is made, of the quality guaranteed, or should the buyer keep the wheat, the seller shall pay such an allowance for inferiority or difference in quality as may be awarded by arbitration in London, but it shall be in the discretion of the arbitrators to give in either case damages, if any, not exceeding 2s. per quarter, over and above the difference in value, according to the special circumstances of the case.

11. *Notice of Arbitration* to be given and Arbitrator nominated by the last buyer to the last seller (and by other buyers in due course) not later than 14 days after the making up of the London Corn Trade Association Standards for the month of shipment, and for Sailing Vessels (or Steamers not having arrived when the Standard Samples were made up), not later than 21 days after the Dock Sample is to hand, but if the Sample is not forwarded to the offices of the London Corn Trade Association, and the buyer does not instruct his Arbitrator to proceed with the Arbitration within a further 14 days, the notice of Arbitration to be void.

12. *Settlements*.—After the documents have passed, first seller and last buyer may settle all claims together, in which case the intermediate provisional invoices shall become final.

13. *The Policies* are to be for the benefit of sellers, and are to be returned to them on final settlement, except in case of total loss. Should there be a general average, then after settlement of same.

14. *Any Commission on Freight* as per charter-party or return premium on policies of insurance to be for the benefit of sellers, but any discount for payment of freight in cash to be for benefit of buyers.

15. *Arbitration*.—All disputes arising out of this contract shall be from time to time referred to two Arbitrators, one to be chosen by each party in difference, the

two Arbitrators having power to call in a third in case they shall deem it necessary. In the event, however, of one of the parties appointing an Arbitrator and the other refusing, or, for seven days after notice of the appointment neglecting to appoint, or in case of the death, refusal to act, or incapacity of any one or more of the Arbitrators; and the party or parties with whom their or his appointment originally rested shall omit to appoint a substitute within three days after notice of such death, refusal, or incapacity, then upon application of either of the disputing parties, and provided the applicant pays to the Secretary of the Association the sum of 5*l.* 5*s.*, the questions in dispute shall stand referred to two Arbitrators to be appointed by the Executive Committee of the London Corn Trade Association at a meeting convened by notice, and at which not less than three members shall be present. In case the two Arbitrators appointed as aforesaid shall not within fourteen days after their appointment agree to an award or appoint a third Arbitrator, then the said Executive Committee, at a meeting constituted as hereinbefore provided, shall appoint a third Arbitrator, and, in case of the death, refusal to act, or incapacity of any such Arbitrators, the said Executive Committee shall from time to time substitute a new Arbitrator or Arbitrators in the place of the Arbitrator or Arbitrators so dying, refusing, or incapacitated.

The Arbitrators appointed shall be in all cases Principals engaged in the Corn Trade as Merchants, Factors, or Brokers, and members of the London Corn Exchange or Baltic. Any person having an interest in the matter in dispute shall be incompetent to act as Arbitrator.

The award of any two Arbitrators in writing (subject only to the right of appeal hereinafter mentioned) shall be conclusive and binding upon all disputing parties, both with respect to the matter in dispute and all expenses of and incidental to the reference and award.

Any member of the Committee, having an interest in the matter in dispute, shall not vote on the question of the appointment of Arbitrators.

In case either party shall be dissatisfied with the award, a right of appeal shall lie to the Committee of Appeal elected for that purpose, and in accordance with the rules and regulations of the London Corn Trade Association in force at date of Contract, provided notice be given to the Secretary of that Association before 4 o'clock p.m. on the fourth business day after that on which the objecting party shall have notice of the award, and provided also the Appellant (if a member of the Association) do pay to the Association, on giving notice of appeal as above, the sum of 15*l.* 15*s.* as a fee for the investigation. Or provided also the Appellant (if not a member of the Association) do pay in like manner and for the like purpose to the Association the sum of 21*l.*

The Committee of Appeal shall confirm the award appealed from, unless four of the members appointed to hear such appeal decide to vary such award.

The award of the Committee of Appeal, whether confirming the original award or varying such award, shall be signed by the Chairman of the Committee, whose signature as Chairman shall be conclusive, and when signed shall be deemed to be the award of the Committee, and shall in all cases be final.

No appeal will be allowed on awards for condition, where the grain is sold on terms known as Rye terms.

Notices under this Rule to be given in writing, and delivered personally, or left at the usual place of business of the person or firm to whom they are addressed.

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## APPENDIX A.

### Memorandum in reply to the Inquiry by the Right Honourable Viscount Cross regarding Impurities in Indian Wheat.

---

Indian wheat comes to Europe dirty—

partly by reason of admixture of gram or some other inferior grain ;  
partly by reason of admixture of earth or mud.

The first admixture is due to the custom which prevails in many parts of India of growing wheat together with gram or pulse, mixed or alternated, in the same field.



They ripen about the same time, and tend to get mixed on the threshing floors. The probable reasons for this custom are that each product absorbs a different constituent of the soil, and that each flourishes best with different varieties of season. The ryot hopes by having two crops in the ground together to win on one of them at any rate, whichever way the season goes. This practice of growing two crops together is less common where irrigation is much extended. It will decrease or disappear when the ryot finds it distinctly to his advantage to grow wheat alone, that is, when he gets, clearly and undoubtedly, a better price for wheat so grown.

The admixture of earth and mud with grain results from the Indian mode of threshing, every ryot, or sometimes every group of neighbouring ryots, has a threshing floor on which the sheaves are piled as they come from the fields. The threshing floor is always away from the village, so as to obviate fire risks. The floor is made of smoothed mud which hardens in the sun; the sheaves are trodden out by cattle, some of the mud of the floor gets trodden up by the cattle's feet, and is swept up with the grain. The grain, chaff, and dirt are winnowed by hand in the wind, but the winnowing does not separate or throw out the dirt. Thus some dirt is always left with the grain, except where winnowing and sifting is done by machinery. And it may be long before ryots can afford winnowing and sifting machines.

Knowing and finding that there is always *some* dirt in wheat, the great exporting houses in India (Bombay and Calcutta), and the importing firms in England have made up their minds to accept 5 per cent. of dirt with Indian wheat. Prices are quoted at the Indian ports, in London, and at the railway marts in the interior of India, for wheat with 5 per cent. of dirt. Most of the exporting houses "sell forward," that is to say, they agree to deliver or ship wheat before they have bought it. They agree on a price, either in London or "free on board" at the Indian port, for wheat with the 5 per cent. of dirt, or as it is called "refraction." And they say that, until the general character of Indian wheat changes, they cannot pay a higher price for wheat with any less proportion of dirt. A report by Mr. Finucane, Director of Agriculture in Bengal, shows,—

- (1.) that export houses have distinctly declined to pay any better price for wheat with only one or two per cent. of dirt;
- (2.) that, therefore, it is directly to the disadvantage of the Indian ryot or middleman to deliver wheat with anything less than 5 per cent. of dirt;
- (3.) that ryots and middlemen actually and systematically mix a certain proportion of dirt with their wheat before they deliver it to the export houses.

The correspondence with merchants appended to Mr. Finucane's letter, and a recent article in the "Indian Agriculturist," show that all this is well known, and show also that Messrs. Ralli Brothers, the biggest export firm in Asia, made an effort to get a quotation for specially clean wheat. It is not clear how their attempt ended. But no doubt it is difficult to change a custom like that of the 5 per cent. refraction, and to get the trade to sample specially, and to pay higher rates for, small parcels of better cleaned wheat.

.. The Agricultural Department in India urge that improvement in the quality and purity of Indian wheat must be brought about by the big exporting firms showing that they want and will pay for better grain. The commercial authorities say that the Government can and should take steps to induce the ryots to send forward cleaner wheat; they add that, when cleaner wheat comes forward in quantity, they (the merchants) will be able to quote a better price for it. They cite the experience of the "Cotton Frauds" Department, which, by help of a special enactment, secured an immense improvement in the cleanness and purity of cotton sent from Bombay to England. No one, however, has ventured to propose a "wheat frauds" department, supported by a small export duty on wheat. In America the big export firms sift or separate the wheat, and guarantee (more or less) that any consignment which passes through their hands shall be according to sample.

I do not suppose any one would advocate a "wheat frauds" Act, and the circumstances above stated do not furnish ground for anything of the kind. Still it is obviously a distinct loss to all concerned that so much dirt should be, more or less intentionally, mixed with Indian wheat. The dirt adds an avoidable 3 or 3½ per cent. to the cost of carriage from the fields to the seaboard and across the sea, the dirt spoils or fouls the milling machinery in England, and it depreciates the value of Indian wheat. What, then, can be done to promote improvement?

I suggest that the state of the case, as now put, should be laid before representative people in the London Corn Trade, and they might be asked whether they could not

devise some plan whereby Indian ryots and Indian export houses would be encouraged and induced to send home cleaner wheat. In the rice trade prices are quoted for clean grain (either cargo rice or white rice), and the London buyer is entitled to make a deduction on the price agreed upon, if the consignment falls in quality below the average of the year. For instance, a London miller agrees to buy a cargo of Arakan cargo rice of the average quality of the year at 7s. per cwt. If the rice, when delivered, is found to be injured by damp, or in any other way below the average of the year, the buyer makes a "cut" (or reduction) of so much per cent. on the price agreed. If buyer and seller cannot settle together the amount of the "cut," the rice goes before mercantile arbitrators, who decide upon the amount of "cut." The same process takes place in India, when a consignment of yarns and piece-goods is below sample, or damaged. It might be possible for wheat houses at the places of export, and in London, to quote and agree upon prices for wheat, with (say) only 2 per cent. of "refraction," and it might be agreed or understood that a "cut" would be enforced on consignments below that average. The "cut" would have to be made at the port of despatch in India, so Indian traders would have to accept the arrangement. It would seem, however, from the passage italicised on the first page of Mr. Finucane's letter that Ralli Brothers, the biggest of Indian export firms, would gladly accept any practicable arrangement for bettering the average of Indian wheat exports.

If the Right Honourable the Secretary of State were disposed to make any suggestion of this kind to the representatives of the wheat trade, I would propose that this note, with copies of the papers quoted, be handed to Mr. Finucane (who is now in England on short leave), in order that he might call on Messrs. McDougall and others, to ascertain their view upon such a suggestion.

C. E. BERNARD.

1st June 1888.

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## APPENDIX B.

### PROCEEDINGS OF THE LIEUTENANT GOVERNOR OF BENGAL.

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#### No. 1265, Agriculture.

From M. FINUCANE, Esq., C.S., Director of the Agricultural Department in Bengal, to the Secretary to the Government of Bengal, Revenue Department.

Sir,

Calcutta, the 18th August 1887.

I have the honour to acknowledge the receipt of your memorandum, No. 1258 T.-R., dated 29th of September last, forwarding, for any remarks I may wish to make, a letter from the Secretary to the Chamber of Commerce, dated 15th idem, in which comment is made on certain remarks made by me on the subject of wheat refraction, in a report submitted with my letter No. 391 T., dated 7th July 1886.

2. The remarks made as regards refraction in that report were the following:—

"The real reason why Indian wheat is adulterated by admixture of foreign substance lies, not in defectiveness of winnowing arrangements, but in the fact that it is not to the cultivator's interest to produce entirely clean grain; for so long as a minimum of 5 per cent. refraction is deducted by exporters in Calcutta, it is evident that it is the interest of the producer to mix dirt with the grain to that extent at least. It was suggested that the remedy therefore lies, not in the introduction of better winnowing arrangements, so much as in the alteration of the present system of deductions for refraction."

Mr. Allen confirms these views by saying:—

"Similar arguments apply to adulteration of mud, &c. These, I believe, the ryot does not add wilfully, because the bepari or petty trader to whom he sells would detect them in his small consignment and pay him an inferior price. On the other hand, the petty trader does not insist on cleaned grain, for he will not himself sell grain containing less than 5 per cent. of impurities, which, if deficient, he will add; for so long as the Calcutta merchants accept 5 per cent. as refraction, it would not pay the bepari to sell grain with only one or two per cent. of adulteration. This brings me to the real point of the whole question. It is purely a case of supply and demand. If the Calcutta merchants insisted on cleaned grain, they would get it. They do insist on clean samples in the case of linseed, and the result is that linseed is cleaned by the actual cultivators before being sold to the petty dealers. The same result would, I believe, follow in the case of wheat. As

matters now stand, wheat in Patna is freely adulterated. Ralli Brothers, in Patna City, deal only with the petty dealers, and these refuse to give any guarantee with the wheat sold. Each lot has to be tested both for impurities and for the percentage of red grain before the price is fixed. If the samples tested happen to be superior to the bulk, the bepari gains. If they should be inferior the bepari can refuse to deal, and so he cannot lose either way. The cultivators never get a fair price, for the brokers and the aratdars have each to get their commissions on each transaction between the bepari and Ralli Brothers. In some marts, where the grain comes chiefly from the neighbourhood, it might be possible for Ralli Brothers to deal directly with the actual cultivators; but in Patna, where the grain comes largely from Gorakhpore and Fyzabad, this is impossible, and the agent for Ralli Brothers is compelled to deal with the petty dealers, whose interest it is to cheat him if they possibly can.

"Since writing the above, I have had a remarkable confirmation of these views from the Manager of the Dumraon Raj, the Honourable Jai Prokash Lall. The statements he made were so significant that I took a note of them at the time, and at the same time informed him that I should embody them in this report. The Manager said that, about two years ago, when the prospects of the wheat trade were apparently good, he seriously thought of cultivating wheat on a large scale. He estimated that on the Rajah's estates there were 300,000 acres of land capable of growing wheat, and he proposed commencing operations with a capital of two lacs. His idea was to induce the ryots to grow wheat alone by means of advances in coin and seed, and he intended purchasing machinery, such as he had seen at the Calcutta Exhibition, for cleaning the grain. All that he now required was a remunerative market. Last year, when in Calcutta on Council business, he called at the office of Ralli Brothers, and after telling them his plans asked what price they would give for clean grain. *Ralli Brothers informed him that owing to the action of the merchants in England they could not afford to pay more for a clean sample than they now did for grain with 5 per cent. refraction. Upon hearing this the Manager abandoned the idea of growing and cleaning wheat on a large scale.* It is difficult to overrate the significance of this anecdote, which appears to prove conclusively that, so long as merchants will not pay a higher price for clean grain, it is useless for Government to think of inducing cultivators to change their present practice.

"I then asked the Manager about wilful adulteration. He said that he had a gola at Itari, near Buxar, from which he used to sell wheat on rather a large scale to the agent of Ralli Brothers at Buxar. The wheat as he got it did not contain 5 per cent. of foreign matter. Accordingly his servants were directed to mix two maunds of earth with every 100 maunds of grain, so as to bring the adulteration up to the required standard. This earth was treated with water and specially prepared for the purposes of adulteration. The suggestion for adulterating the grain in this way came, as the Manager says, from the employes of Ralli Brothers. This fully bears out what Major Boileau says, that grain dealers in Dinapore wilfully adulterate their grain, adding about two maunds and thirty seers of dry clay, bhusee, and other grains to every hundred maunds of wheat. Mr. T. Gibbon, C.I.E., the Manager of the Bettiah Raj, told me that wilful adulteration was practised by the petty dealers in Chumparun, and Mr. Carnduff, writing from Hajipore, a large grain mart, says, 'In the hands of the middlemen, when the grain is lodged in their golas, such grains as *akla pipru* are, I understand, intentionally added with a view to adulteration.' Mr. Jenkins, from Buxar, who has clearly paid a good deal of attention to the subject, is of the same opinion.

"Messrs. Mylne and Thompson have pointed out to me that the adulteration of *gur* is analogous to the adulteration of wheat. When their sugar mills were first introduced, they were valued by the purchasers on account of their saving labour, and not because they turned out a cleaner article. Even now the bunniahs in Jagdispore refuse to pay higher price for *gur* free from adulteration, and though the cultivators can produce clean *gur*, and will do so if required, it does not pay them to clean the *gur* they sell in open market. There is now, however, a tendency among European firms to pay a higher price for purer *gur*; similarly, if the merchants would reduce their standard of refraction, they would get cleaner samples of wheat. This question is treated exhaustively in the report from Shahabad, and it is so difficult to make extracts without omitting something of interest, that I venture to suggest that the whole report be sent in original. The possibility of cleaning grain with the ordinary tray-shaped fan (soop) is pointed out by the Collector of Sarun and in the report from the Patna district.

"As regards, then," I added, "the alleged imperfection of present arrangements for winnowing, it will thus be seen that the mixture of dust from the threshing floor forms a very small portion of the impurities found in Indian grain, and that the present arrangements for winnowing are as good as can be hoped for under present conditions. It will of course be desirable to effect improvements in winnowing and threshing, should any be found possible; but the root of the evil complained of can only be reached by the abolition of the system of allowing a minimum refraction of 5 per cent., a remedy which lies in the hands of the merchants themselves. The facts mentioned by the Manager of the Dumraon Raj show conclusively that clean grain will be forthcoming if the merchants pay for it, and that it will not be forthcoming, however perfect the winnowing and threshing arrangements may be, so long as a minimum of 5 per cent. is allowed for impurities, be the samples ever so clean.

"These facts and arguments have been brought to the notice of the Calcutta Chamber of Commerce, who, while not denying their force, express regret that they are unable in the present state of the trade to alter the existing practice in this respect. As long as that practice continues, it would appear to me to be futile for Government officers to talk to cultivators of the advantages of producing entirely clean grain. On the contrary, if Government officials interfere at all in the matter, it should be by explaining to the cultivators that it is to their interest to mix at least 5 per cent. of foreign matter with clean grain before offering it for sale."

### 3. The Chamber, in reply to the remarks above quoted, observed that—

"In again discussing the question of the refraction of wheat, the Committee of the Chamber have availed themselves of the views and opinions of the Wheat and Seed Trade Association. The Chamber of Commerce is quite as desirous as the Government to secure that Indian wheat shall be exported as free from admixture as possible, and keeps this result steadily in mind in all discussions bearing on this subject. But although parcels of fairly clean wheat do reach Calcutta, they are so small as to have no effect on the market. An exporting merchant is precluded from giving a better price for such parcels, because he will reap no corresponding advantage in the home market. If clean wheat were delivered in Calcutta in large quantities the case would be different.

"The Director of Agriculture remarks that 'a minimum of 5 per cent. refraction is deducted by exporters in Calcutta,' this is a misapprehension. No deduction of weight is made unless the impurities in a parcel exceed 5 per cent. It is because experience shows that wheat can seldom be delivered in Calcutta with a less amount of admixture than 5 per cent. that the Committee do not see their way to recommend an alteration

of the standard of refraction. The officers of Government may render the trade most valuable service by steadily impressing upon the cultivators that what is most objectionable in Indian wheat in the eyes of home growers is the presence in a parcel of other grains and seeds, such as barley, pulses, linseed, and the like. Mud and earthy matter can be eliminated without very great difficulty, but it is next to impossible to separate other grains and seeds from the wheat. So long as Indian cultivators grow wheat crops carelessly, or along with or side by side with other grain or seed crops, so long will it be difficult to obtain wheat in quantity of a purity which would enable exporters to alter the standard of refraction. But real service would be done both to the trade and the cultivators if the officers of Government kept steadily before growers of wheat that it is principally the admixture of foreign grains and seeds which maintains the 5 per cent. standard of refraction, and also impressed upon them that to obtain a better price for clean wheat, such wheat must be sent into this market in large quantities."

4. I have hitherto refrained from making any comment on the Chamber's remarks, because it appeared to me that the object which the Chamber and Government alike had in view, namely, that of promoting the interest of producers and traders in Indian wheat, by the adoption of measures for prevention of adulteration of wheat by admixture of foreign substances with it, would not be served by entering on a discussion which could lead to no substantial results. It was therefore thought desirable to endeavour to take some such action as would bring the questions at issue to a practical test, and it is rather with a view to report the results of this action, than from a desire to criticise the letter of the Chamber of Commerce, that I now address you.

5. One or two remarks may, however, in passing, be here made on the Chamber's letter.

It may at once be admitted that the phrase "a minimum of 5 per cent. refraction" is deducted by exporters in Calcutta" is misleading. Five per cent. is not deducted from the actual weight of wheat when it arrives in Calcutta, but prices are fixed on the assumption that all wheat contains at least 5 per cent. of foreign matter; and given say 100 maunds of best Buxar wheat landed in Calcutta free from dirt, my contention was that the price per maund which such wheat would realize was not more than that same grain would fetch if mixed with 5 per cent. of dirt. I do not understand, from the discussions which have taken place on the subject, that the correctness of this statement is disputed, and if this be so, it would appear that the practical effect of the system as regards encouragement of adulteration is the same as if 5 per cent. were deducted from every 100 maunds of clean grain. I admit, however, as already remarked, that the phrase used was somewhat misleading; but I may perhaps be allowed to plead in excuse for it that the report in which it occurred was laid before the Chamber before it was published, that criticisms were invited upon it, and that attention was specially called to the remarks on the subject of refraction, but no exception was taken to them; on the contrary, the accuracy both of the statements of facts and of the conclusions deduced from them would appear, from the correspondence which took place, to have been admitted.

6. Coming to the real subject matter of this letter, I now beg to report what measures have been taken to bring the question at issue to a practical test, and the degree of success which has attended those efforts. It will be remembered that the Honourable Jai Prokash Lall, Manager of the estates of the Maharajah of Dumraon, had stated that he had at one time formed a plan to induce his ryots to grow wheat, on a large scale, alone, without admixture of other crops, but that he abandoned the idea because he found that he could not obtain a higher price for clean wheat than for the same grain mixed with 5 per cent. of dirt or other foreign substance. This gentleman came down to Calcutta in March last, and expressed his willingness to reconsider his decision. Accordingly I addressed certain Calcutta firms named in

\* Messrs. W. Vale, King, & Co.  
 " Petrocochino Brothers.  
 " Ralli Brothers.

the margin,\* and inquired whether they would guarantee a higher price for clean wheat for the same quality of grain mixed with 5 per cent.

of dirt. It will be seen, from the correspondence which is annexed, that none of these firms were at that time in a position to offer higher prices for clean grain than for the same grain mixed with 5 per cent. of dirt; but they expressed their willingness to send samples of pure wheat to England, if supplied with it by the Manager of the Dumraon Raj or Government, with a view to ascertain whether it would there fetch an adequate price.

Messrs. Marshall, Sons, & Co., Gainsborough, England, about this time proposed to bring one of their steam wheat-thrashing machines from Bombay, and by means of it to clean wheat down to 2 per cent. of impurities, and also to purchase some wheat thus thrashed and cleaned, and send a small consignment of 200 to 300 tons of it to England, in order to ascertain whether it would command a higher price than ordinary Indian wheat mixed with dirt. They asked Government to co-operate

by making a grant of Rs. 1,000 towards defraying the charges of carriage of the machine. This grant was made, and the machine was accordingly brought from Bombay and tried at Dumraon in May last.

7. It was found that the machine failed to separate wheat from *bhut* or gram, and it was then too late to obtain a sufficiently large quantity of wheat which had been grown alone to permit of the original plan, of sending two or three hundred tons to England, being carried out. Experiments were, however, made on a limited scale, and samples of the steam-thrashed grain were sent to the Chamber of Commerce, to the Agri-Horticultural Society, and Messrs. Ralli Brothers, for appraisement. The reports of the Chamber of Commerce and of Messrs. Ralli Brothers are annexed. According to the report of the latter, the grain thrashed in the ordinary way contained  $5\frac{1}{2}$  per cent of impurities, the steam-thrashed wheat contained only  $1\frac{1}{2}$ . But the steam-thrashed wheat, on the other hand, was to some extent chipped and broken. Messrs. Ralli Brothers point out that it is impossible to fix the relative values of the two samples, and add that if the steam thrashed sample were delivered against a contract, allowing 5 per cent. refraction, the seller would derive no advantage from the superior purity of the sample. The Committee of the Wheat and Seed Trade Association say that the bullock-thrashed grain contained 9 per cent. of foreign matter, and was practically unmerchantable, while the steam-thrashed wheat refracted only  $3\frac{1}{4}$  per cent. The value of 100 maunds of the former they put down at Rs. 279, and of the latter at Rs. 290. 10.

8. It will thus be seen that these experiments, though they show that wheat can be cleaned down to 2 or 3 per cent. of refraction, yet are not decisive on the question whether wheat so cleaned will command an adequate price.

9. It will, however, be satisfactory to Government and the public to learn that Messrs. Ralli Brothers have, as will be seen from their letter dated 21st July 1887 (reproduced as an annexure to this letter), lately shipped to Marseilles two samples to be there sold on their merits, one with 6 per cent. refraction, the other cleaned down to 3 per cent. The former cost Rs. 2. 14. 4 per maund, the latter Rs. 2. 15. 11, including cost of cleaning at three pie per maund; and it remains to be seen whether the latter will command such a price as would make the repetition of the experiment on a large scale profitable. I entirely agree with Messrs. Ralli Brothers "that improvement in the condition, or rather impurities which are contained in Indian wheat, will result in accordance with the requirements of the consuming countries; if they wish to receive cleaner wheat and pay for it accordingly, cleaner wheat will be exported, because exporters will adapt themselves to the requirements of consumers." But I differ from them when they say "at the same time this result will also be obtained by the endeavours of the Agricultural Department in the way of impressing on cultivators the necessity of supplying wheat as free of the admixture of other grains as they possibly can." I think there is a tendency to attach too much importance to the influence of Government officers in such matters, at least in Bengal. Ryots, if urged by Government officers to do anything which it is their interest or inclination to do, are only too willing to accept such advice, and to shield themselves behind it; but when there is a question of doing something which it is not their interest or their inclination to do—for instance, payment of public cesses—the advice of Government officers goes for little, and their interference in matters which do not fall within their province, when not necessary, does more harm than good. Concerning the question under discussion, I have heard of a case in point in which ryots having been urged by their Sub-divisional Magistrate to sow wheat without mixture of other grains, showed their appreciation of his interference by dropping the cultivation of it altogether.

10. It appears to me that it is as unreasonable to dictate to the growers of wheat in this matter, as it would be to dictate to the shippers in Calcutta what their pecuniary interests may be, or to expect them to act in a manner opposed to those interests. But it is also as futile to blame the producers for growing other crops with wheat if they find it profitable to do so, as it is to impute blame to merchants in Calcutta for purchasing and shipping wheat mixed with dirt so long as there is a demand for dirty wheat in Europe, and adequate profit cannot be obtained by shipping clean grain. The experiment now being made by Messrs. Ralli Brothers will tend to show whether such profit can be obtained. If it should turn out that a remunerative price can be got for clean grain, then there can be little doubt that



Messrs. Ralli Brothers would ship clean wheat, that the example set by them would

\* "The report is in answer to a Government circular, in which, amongst other things, attention was directed to the necessity of obtaining clean grain for export. It appears that at present the grain is mixed with dirt, &c., and it has also been ascertained that this is a fault that could be rectified were it not for a peculiar trade custom. The Calcutta merchants (who in their turn declare that they act under the compulsion of the merchants in England) insist, when buying wheat, upon making a 5 per cent. deduction for impurities, no matter how clean the samples may be. Consequently, the intermediary who sells takes good care that this percentage of impurity is attained, and if it should be the case that the grain he has to dispose of comes to him clean from the cultivator, he at once sets about to adulterate it by mixing two maunds of earth with every hundred maunds of grain. Although this result of their rule has been pointed out to them, the Calcutta merchants have the boldness to ask that the Government should come to their assistance. Speaking for themselves and for the Committee of the Wheat and Seed Trade Association, the Bengal Chamber of Commerce ask that 'Government officers should be instructed to impress upon the cultivators and middlemen the importance of keeping their wheat as clean as possible.'

"And no doubt it would be very pleasant for the members of those Associations, and for merchants here as well, if they were enabled to get their full 100 per cent. of clean wheat while paying only for 95 per cent. of wheat and 5 per cent. of dirt. The cultivator or Native dealer, however, naturally takes a different view of the transactions. If you want wheat, he says, you must pay for it, and if you only pay for dirt, then dirt you will have. This is only reasonable, and Mr. Finucane is quite right when he expresses the opinion that, so long as the rule of the merchants remains as at present, 'if Government officials interfere at all in the matter, it should be by explaining to the cultivators that it is in their interest to mix at least 5 per cent. of foreign matter with clean grain before offering it for sale.' It is a pity, however, that the Indian wheat trade should be hampered by such absurd rules, and it is desirable that it should be clearly understood here where responsibility in the matter mainly rests."—"Economist," of 16th October 1886.

who first moved in this matter, but that it was the Bengal Chamber which drew attention to the evil complained of, and requested Government to take action, and that all Government has done in reply is to point out that the action suggested is not legitimate, and that the remedy for the evil lies in the hands of the

merchants either here or at home, or in the hands of the consumers in Europe. In this connection I would take this opportunity to remark, that when in a former report it was said by Mr. Allen that the employes of Messrs. Ralli Brothers had told the Manager of the Doomraon Raj to mix two maunds of dirt with every 100 maunds of wheat, it was not meant to imply that Messrs. Ralli themselves, or any of their European assistants, recommended anything of the kind, though some of their subordinates certainly did so. So far from imputing any objectionable practices to the Messrs. Ralli or their principal assistants, I have to acknowledge my thanks to them, as well as to the Chamber of Commerce, for valuable advice and information in my inquiries on this question. With regard to the experiment in shipping clean samples, now being made by Messrs. Ralli Brothers, it may be here observed that as nineteen twentieths of the wheat shipped is sold before it is bought by Calcutta shippers, the result of the sale of a small parcel of clean wheat *after arrival in Europe* must not be too readily expected to upset the conditions under which the trade has hitherto been worked. As all shipments of Indian wheat are now either approved or disapproved by home buyers after a comparison with a standard sample of average shipments made up monthly by the London Corn Trade Association, the sales of clean wheat must either be made on small samples sent home from here, or wheat, like seeds, must be analysed at home. In either case, it will be slow and difficult work to introduce a marked and sudden innovation into a well established trade.

11. With a view to test the relative merits of steam threshing and threshing by having grain trodden out by bullocks, in the ordinary Native fashion, one ton of wheat was carefully weighed and passed through the steam threshing machine at Dumraon. It took 40 minutes to pass through, but the engine was not working with full power. Mr. Scott, the mechanic in charge, was of opinion that with full power the work would have been finished in half an hour. Besides Mr. Scott, a Native mechanic and six coolies were employed in working the steam thresher.

When threshed the crop was weighed, and the results were,—

|                | Cwts. | qrs. | lbs. |
|----------------|-------|------|------|
| Of clean grain | -     | -    | -    |
| Of cattle food | -     | -    | -    |
| Of straw       | -     | -    | -    |
| Of chaff       | -     | -    | -    |
|                | -     | -    | -    |

19 3 22

12. One ton of the same wheat was next threshed in the Native system. With 10 bullocks this work took eight hours to complete. Four coolies were employed in threshing for eight hours, and the same number in winnowing for four hours.

The cost of threshing in this case came to Re. 1. 11. Thus,—

|   | R. | A. | P.     |
|---|----|----|--------|
| Hire of 10 bullocks at $1\frac{1}{2}$ anna each | -  | -  | 0 15 0 |
| Wages of 4 coolies for 8 hours                  | -  | -  | 0 8 0  |
| Ditto, ditto, for 4 hours                       | -  | -  | 0 4 0  |
|   |    |    | <hr/>  |
|   |    |    | 1 11 0 |

Or, say, two annas per maund of threshed grain.

When threshed the weight of grain and straw was as follows:—

|       | Cwts. | qrs. | lbs.    |
|-------|-------|------|---------|
| Grain | -     | -    | 9 2 15  |
| Straw | -     | -    | 9 3 0   |
|       |       |      | <hr/>   |
|       |       |      | 19 1 15 |

Taking the value of the steam-threshed grain, as estimated by the Chamber of Commerce, at Rs. 290. 10 per 100 maunds, and the bullock-threshed grain at Rs. 279 per 100 maunds, the financial results stand thus—

100 tons of unthreshed corn if threshed by steam machine will yield—

1,200 maunds of grain with  $3\frac{3}{4}$  per cent. refraction, valued at Rs. 290. 10 per 100 maunds by Chamber of Commerce (omitting fractions) - - - - - Rs. 3,487

100 tons of unthreshed corn if threshed by bullocks will yield—

1,316 maunds of grain with 9 per cent. refraction, valued at Rs. 279 per 100 maunds - - - - - 3,671

Difference in favour of bullock threshing and dirt per 100 tons of unthreshed corn - - - - - Rs. 184

Against this balance in favour of bullock threshing must, however, be set off:—

(a) Cost of carriage of 116 maunds of extra dirt from Dumraon to Calcutta, at Rs. 39 per 100 maunds - - - - - Rs. 45

(b) Extra cost of bullock threshing as compared with steam threshing, at 1 anna per maund, on 1,316 maunds - - - - - 82

127

The difference in favour of bullock threshing is Rs. 57.

It thus appears that even after making all reasonable deductions for carriage of dirt and for saving of labour by steam threshing, the balance of advantage to the ryot, according to the figures furnished by the Chamber of Commerce, would still be on the side of bullock threshing and admixture of dirt. I have taken the cost of steam threshing at 1 anna per maund, as estimated in Bombay; but as labour is cheaper in Behar, this would possibly be above the mark there. It is, however, to be remembered, on the other side of the account, that the initial cost of the machine, the interest on the capital outlay on it, the difficulty of obtaining skilled men to work it, the difficulty of providing other suitable employment for such men when the machine is not at work, have all been left out of consideration.

13. These results are only of interest in making a comparison between the relative merits of steam threshing and threshing by bullocks, and do not affect the question of refraction. As regards the latter point, it is immaterial whether clean wheat is produced by steam threshing or any other way. The crucial question is—will clean grain, however produced, fetch a remunerative price as compared with unclean grain, and the answer would appear to be in the negative, so far as wheat threshed with Messrs. Marshall and Company's machine in Behar is concerned, at least so long as the present system of refraction continues. Further experiments with the steam thresher will, however, be made under more favourable conditions next year, and meanwhile it is hoped that improvements will be made by which, with suitable arrangement of sieves and screens, the machine will separate wheat from gram and oilseeds. There is not, however, in my opinion, the remotest chance of these machines coming into general use by ryots individually or collectively, though it is possible

that large landholders here and there may purchase a few of them if a portable machine, carefully adapted to the conditions of Indian agriculture, can be supplied. Indeed, one such landholder, who grows wheat largely in Bhagulpore, has expressed a strong desire to obtain a machine of this kind, and has explained that the loss he suffered this year, by being unable to have his wheat threshed in due time before it became damaged by a fall of rain, would more than pay for one of Messrs. Marshall and Company's machines.

14. "Connected with the question of the condition in which wheat reaches this market is," the Chamber went on to remark, "the very important question of the accommodation for it provided at up-country stations, especially on railways other than the East Indian line. It is hopeless to expect to improve the hold of Indian wheat on European market so long as there is nothing at certain times to prevent its reaching Calcutta weather damaged. The absence of proper and sufficient accommodation at railway stations for receiving wheat has mulcted shippers in very heavy allowances, and is one of the main causes of bringing Indian wheat into disfavour with home consumers. The wheat season extends from April to October, and as soon as the rains set in the lack of proper accommodation results in a portion of nearly every parcel arriving damaged. Not only is the shelter insufficient, but in many cases the railway platforms are not raised to the point of safety from casual inundations. The railways endeavour to protect themselves by granting to a consignor clear railway receipts against his indemnity note. This practice, when regard is had to the short time allowed at Howrah for the examination of wheat by consignees, and also to the limited facilities they enjoy for such an examination, results in large quantities of damaged goods passing undetected, to the manifest and serious loss of shippers.

"The Committee of the Chamber of Commerce would in the best interest of the wheat trade bring this question of the accommodation at up-country stations very strongly to the attention of His Honour the Lieutenant Governor."

15. The complaints to which reference is here made relate, I believe, principally to up-country stations beyond the territories subject to the Lieutenant Governor of Bengal; but it would no doubt be very desirable to provide further accommodation at Howrah and to allow greater facilities there for examination of wheat by consignees. The authorities of the East Indian Railway are fully alive to the importance of this question, and are, it has been ascertained, in correspondence with the Government of India regarding it.

16. In my report, dated 7th July 1876, attention was called to the superiority of Buxar wheat to that locally grown in Bhagulpore.

Buxar seed was accordingly tried in many districts, and samples of the grain thus produced were sent to the Chamber of Commerce, together with samples of local grain, and their values were appraised. The results are not everywhere as satisfactory as might have been expected, but the quality of the Buxar grain is almost everywhere superior to that locally produced. Further supplies of this seed are now being asked for. The best grain produced in Bengal and Behar is that sent by the Manager of the Deo Raj in Gya, who will be asked to furnish more of this grain for seed.

I have, &c.,

M. FINUCANE,

Director of the Agricultural Department in Bengal.

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From M. Finucane, Esq., to Messrs. Ralli Brothers, Messrs. Vale King & Co., and Petricochino & Co., dated Calcutta, the 2nd April 1887.

It has been proposed to introduce wheat steam threshing machines in Doomraon by which clean wheat can be produced. The Manager of the Doomraon Raj is willing to try one of these machines and produce pure wheat, if he can obtain a higher price for it than he would receive for the same grain mixed with dirt. I beg to inquire whether you are prepared to give a higher price for perfectly clean wheat grain than for the same quality of grain with an admixture of 5 per cent. of dirt. I should be glad to discuss the subject with any person whom you may depute to my office to-day between 3 and 4.

From Messrs. Ralli Brothers to M. Finucane, Esq., Director of the Agricultural Department, Bengal, dated Calcutta, the 2nd April 1887.

We are in receipt of your letter of date, and in reply beg to inform you that the Manager of the Doomraon Raj had a long interview with us two or three months ago, when we explained the matter fully to him.

We told him that the most practical way for him to dispose of this question is to send us large samples of wheat with various admixtures, when we would make him our offer for each quality.

In a general way, we say that the clean wheat could obtain a higher price than the dirtier one; but the price paid will also depend on the special outlet which may exist at the time for the clean wheat. If the Manager of the Dumraon Raj is ready to offer us to-day clean wheat, stating the admixture and quality, then, if the price asked for is not too high as compared with the price asked for 5 per cent. stuff, we might see with our home friends whether there is any chance of doing business in wheat thus cleaned down.

From Messrs. Vale King & Co. to M. Finucane, Esq., Director of the Agricultural Department, Bengal, dated Calcutta, the 2nd April 1887.

In reply to your favour of date, we shall be pleased to forward to London a sample of pure wheat, with the object of being able later on to offer you a better price for such wheat than we can at present.

We must either sell in London on standard sample of No. 2 Club, &c, or, for a specially good quality, on a sample submitted by the seller.

Our experience goes to show that the home buyers prefer buying on the ordinary standards to paying an extra price for a special quality; but we shall willingly try and introduce the better quality you propose into the London market.

We regret that Mr. Petrie cannot wait on you to-day; but if you will appoint a time next week, other than on Tuesday, Wednesday, or Friday afternoon, he will be happy to discuss the subject with you.

[Mr. Petrie afterwards did discuss the subject, and informed me that he could not guarantee a higher price, and added that Government might do something towards getting merchants in England to give higher prices for clean grain by introducing a new brand of wheat cleaned to 2 per cent. Messrs. Petricochino referred me to the Chamber of Commerce, and gave no further reply.— M. F.]

From Messrs. Ralli Brothers to M. Finucane, Esq., Director of the Agricultural Department, Bengal, dated Calcutta, the 23rd May 1887.

We have received the two samples you mention in your letter dated 18th May, and have to report on them as follows:—

1st. *Wheat threshed by the ordinary Native method.*—This sample contains too many red grains, viz., 35 per cent. and 65 per cent. white, whilst good Buxar quality should contain about 20 per cent. red and 80 per cent. white.

This sample would be worth to-day Rs. 2. 13. 6 per maund, whilst good quality wheat would be worth about Rs. 2. 14. 6.

The refraction of this sample is  $5\frac{1}{8}$  per cent., so that if a seller delivers such wheat against a contract with 5 per cent. refraction, he would have to pay an allowance for the  $\frac{1}{8}$  per cent. excess refraction.

2nd. *Steam-threshed wheat.*—This wheat is spoiled by the machine, many grains being broken, and we would not ship such wheat, as it would pay an allowance at home.

The refraction is  $1\frac{7}{8}$  per cent.; but if this wheat were delivered against a contract allowing 5 per cent. refraction, the seller would obtain no advantage from the lower refraction it contains.

If, however, the wheat were sold on a sample, and it did not contain the broken grains above referred to, it would obtain a higher price than the sample containing  $5\frac{1}{8}$  per cent. refraction.

It is impossible to fix exactly the relatively higher value of the clean wheat until the requisite records have been received from the consuming countries; and all we can say at present is that, in a general way, the wheat, if not broken, would fetch a

better price if sold on a guaranteed sample, or if the seller guaranteed by contract the lower refraction which the sample contains.

We do not know what opinion you will receive from the Association, as we are not members. The above is our opinion.

From G. M. Barton, Esq., Assistant Secretary, Wheat and Seed Trade Association, to M. Finucane, Esq., Director of the Agricultural Department, Bengal, dated Calcutta, the 2nd June 1887.

I am desired by the Committee of the Wheat and Seed Trade Association to acknowledge receipt of your letter of the 18th ultimo to Mr. Clarke, and also receipt of the two bags of wheat produced at Doomraon, in the Buxar sub-division, one steam-threshed, and the other the same grain threshed by the ordinary Native process.

In your letter you ask the Committee to appraise both, and to let you know their relative values, with their opinion on them generally.

In reply, I beg to say that the Committee have carefully examined the wheat in each of the two bags, and I am directed to send you the following report, which embraces their opinion upon each of the two descriptions.

The bullock-threshed sample refracts 9 per cent., of which  $8\frac{3}{4}$  per cent. is mud and other grain, and  $\frac{1}{4}$  per cent. damaged and withered grains. Wheat with such an admixture is practically unmerchantable for export, and it is difficult to put a value on it as it is.

The sample of steam-threshed wheat refracts  $3\frac{3}{4}$  per cent. according to the usual system of refraction, but of this  $1\frac{5}{16}$  per cent. only consists of damaged grains and substances other than wheat, and  $2\frac{7}{16}$  consists of grains crushed and broken by the machinery. This broken and crushed wheat is very unsightly in the sample, and would probably detract considerably from its value in the home market.

The colour is considerably inferior to good Buxar No. 1 Club, being very yellow, and the sample is much mixed with red grains. This wheat would not pass in this market as average Buxar No. 1 Club, and it is difficult to place an exact value on it; but, if sold on sample, it would probably fetch about 1 anna per maund less than average Buxar, or say, in the present market, Rs. 2. 14. 6 per maund. It is doubtful whether, with its present admixture of crushed and broken grains, this wheat would sell for a better price than the same quality with an ordinary admixture of 5 to 6 per cent.

With reference to your inquiry as to what difference in price would a hundred maunds of the steam-threshed grain fetch over the sample threshed in the ordinary way, I am directed to give you the following figures:—

|                                  | R.  | A. | P.                         |
|----------------------------------|-----|----|----------------------------|
| 100 maunds steam threshed, at    |     |    |                            |
| Rs. 2. 14. 6                     | 290 | 10 | 0                          |
| 100 maunds ordinary threshed, at |     |    |                            |
| Rs. 2. 14. 6.                    |     |    |                            |
| Less 4 per cent. excess re-      |     |    |                            |
| fraction                         | 279 | 0  | 0                          |
| Difference                       | -   | -  | - Rs. 11 10 0 per 100 mds. |

I return the bag of wheat as requested, and I also send you, by desire of the Committee, a sample of a good delivery of Buxar No. 1 Club, and a sample of the Committee's standard of May shipments of No. 2 Club, Cawnpore-Lucknow quality, which may be of use for purposes of comparison.

From Messrs. Ralli Brothers, to M. Finucane, Esq., Director of the Agricultural Department, Bengal, dated Calcutta, the 21st July 1887.

In reply to your last inquiry, what we have done is this:—

We wished to see in a practical way the comparative value on this side and at home of cleaner wheat as compared to the average run of the dirtier stuff which is procurable.



As this cannot be so satisfactorily ascertained by bulky samples only, we instructed our Agency at Buxar to purchase a parcel of wheat and despatch to us one portion of it in its natural uncleaned state, and the other portion after having reduced the refraction contained in it (viz., everything which is not wheat) as much as they could.

Our Agency has done this, and they sent us down two parcels, thus handled, of some 100 bags each.

At the same time we have received the respective invoices, and the result is the following :—

The wheat bought contained about 6 per cent. refraction.

The parcel despatched in its original state, viz., with 6 per cent. refraction, costs us, arrived at Howrah, Rs. 2. 14. 4 per bazaar maund

The parcel despatched after having been cleaned down to about 3 per cent. costs us, arrived at Howrah, Rs. 2. 15. 11 per bazaar maund.

The extra cost, therefore, of the cleaner wheat came to 1 anna 7 pie per maund, which is equal to about  $10\frac{3}{4}d.$  per quarter at home.

The expense of cleaning, taken by itself, is not a very heavy one, because it comes to about 3 pie a maund; but the final expense is so very much enhanced on account of the incidental expenses in the shape of importing into godown, storing, repacking, exporting, &c., &c., which are incurred, and which, but for the cleaning, would be saved, and of course also by the lost of weight incurred, viz., 3 per cent., whilst the expenses saved by not shipping this 3 per cent. are small only.

The original parcel was cleaned by hand labour, and was cleaned twice; but in spite of this the refraction was not reduced to less than 3 to  $3\frac{1}{4}$  per cent. on account of the food grains which it contained, chiefly kessary and mussoory, which cannot be got rid of because they are of about the same size and weight as the wheat.

If we were to apply extensively the system of cleaning wheat, we might be able to improve matters somewhat, but not to any really appreciable extent.

The above parcels we are shipping to Marseilles, and when they arrive there they will be sold on their merits, and we shall know then what the actual result of the experiment will be; but as the extra cost of the cleaned wheat, which I give you above, is equal to quite half a franc per 100 kilos, we do not expect to obtain in Marseilles a higher price such as to compensate for the higher cost, and besides this, though the experiment made is a very practical one, it would require to be repeated so as to form a definite conclusion. Besides, we cannot depend on having always a regular outlet for this wheat.

As I know that you take much interest in this question, I thought that you would like me to explain to you what we have done in a detailed way.

As regards the general question of Indian wheat on this side of India, nothing fresh has been done lately, and wheat continues to be shipped in the same way as previously.

As you know, my opinion on this subject is that an improvement in the condition, or rather in the amount of impurities which are contained in the wheat shipped will result in accordance with the requirements of the consuming countries, viz., if they wish to receive cleaner wheat and pay for it accordingly, cleaner wheat will be exported, because exporters will always adapt themselves to the requirements of the consumers.

At the same time, however, this result will also be obtained by the endeavours which the Agricultural Department will continue in the way of impressing on cultivators the necessity of supplying wheat as free of the admixture of other grains, &c., as they possibly can, because, as you will see also from what I write above of the experiment we made at Buxar, it is quite clear that whilst dust and such like matters can be extracted from the wheat, the edible grains, &c., which the wheat contains cannot be equally so, and these grains constitute a great proportion of the admixture.

In conclusion, my opinion is that the supplying of cleaner wheat cannot be forced upon either shippers or cultivators; but that whilst the former will conform themselves to the requirements of trade, the tendency of which is to receive purer wheat, the latter should continue to be urged by Government to bring down their wheat in

a purer condition by restricting, as much as possible, the present system of sowing mixed crops and the like.

I shall be obliged by your informing me whether the information I give you is all that you require at present.

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## Report on Impurities in Indian Wheats. No. 2.

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Clifton House, Greenwich Park, S.E.,  
13th November 1888.

Sir,

In continuation of my letter of the 22nd August last, and with reference to your letter of the 22nd September following, I have now the honour to submit the accompanying tabular statements, showing the percentage of admixture of white and red grains, and of dust, dirt, and seeds, and also the amount of weevilled and otherwise damaged grain in the monthly average samples of the various denominations of Indian wheats imported into England last year. Similar analyses of other wheats are also added for the purpose of comparison. (See Appendix A.)

I was most kindly supplied by the London Corn Trade Association with their monthly standard samples, which are drawn from the Indian wheats arriving in Great Britain, and forwarded to London for this purpose; and I was also kindly supplied by the Liverpool Corn Trade Association with their sample of choice white Bombay wheat.

I have carefully retained all the samples and the separated portions, and shall be prepared to submit them for your inspection.

The white wheats, when separated from all admixture, are of a very fine quality, equal to the finest in the world, and if they could be so shipped, would command the highest price.

The importance of shipping wheats free from adulteration cannot be expressed in better terms than in the letter of the Honourable F. Forbes Adam to Lord Reay, and I would suggest that it should be published with this Report. (See Appendix B.)

Buyers of Indian wheats are under the impression that they cannot obtain them otherwise than in their present foul condition, and many supply themselves with early shipments only, by steamer, for their immediate requirements, and *via* the Cape to arrive later. The analysis points to the intentional admixture of impurities in the later months of the year.

I have heard it stated that French buyers obtain Indian wheats in a superior condition and at a higher price than we do. I would suggest that inquiries be made and samples obtained from Marseilles to ascertain if this is so.

I am, Sir,

Your obedient Servant,

JOHN M'DOUGALL, F.C.S.

The Under Secretary of State  
for India.

## APPENDICES.

## APPENDIX A.

TABLE NO. 1.

Indian Wheats imported from Calcutta.

| Description of Wheat.       | Date.     | Red. | White. | Admixture. |       |        |                       |        | Weevilled. | Damaged. | Total Loss. |
|-----------------------------|-----------|------|--------|------------|-------|--------|-----------------------|--------|------------|----------|-------------|
|                             |           |      |        | Dust.      | Dirt. | Seeds. | Barley, Oats, or Rye. | Total. |            |          |             |
|                             | 1887.     |      |        |            |       |        |                       |        |            |          |             |
| No. 1 Club Calcutta (White) | May       | 16.4 | 80.4   | .9         | .7    | 1.4    | .2                    | 3.2    | .1         | .2       | 3.5         |
| " " "                       | June      | 19.1 | 77.1   | .1         | 1.4   | 1.8    | .5                    | 3.8    | .8         | .3       | 4.9         |
| No. 2 Club Calcutta (White) | March     | 21.3 | 77.1   | .5         | —     | .6     | .5                    | 1.6    | —          | 2.3      | 3.9         |
| " " "                       | April     | 31.1 | 66.2   | 1.1        | —     | .6     | 1.0                   | 2.7    | —          | 4.1      | 6.8         |
| " " "                       | May       | 25.8 | 71.0   | .4         | .4    | .9     | 1.5                   | 3.2    | .3         | 1.2      | 4.7         |
| " " "                       | June      | 35.1 | 62.0   | .8         | —     | .9     | 1.2                   | 2.9    | —          | .9       | 3.8         |
| " " "                       | July      | 44.8 | 50.0   | 1.6        | .5    | 1.9    | 1.2                   | 5.2    | .7         | —        | 5.9         |
| " " "                       | August    | 42.8 | 50.2   | 3.0        | .2    | 2.2    | 1.6                   | 7.0    | 2.0        | 1.3      | 10.3        |
| " " "                       | September | 39.1 | 56.2   | .9         | .5    | 1.7    | 1.6                   | 4.7    | 3.5        | .6       | 8.8         |
| " " "                       | October   | 37.5 | 58.0   | 1.5        | .4    | 2.0    | .6                    | 4.5    | 2.2        | .8       | 7.5         |
| " " "                       | November  | 35.0 | 59.1   | 1.7        | .8    | 2.2    | 1.2                   | 5.9    | 5.1        | 1.4      | 12.4        |
| Hard Calcutta               | April     | 37.8 | 58.8   | .7         | 1.2   | .6     | .9                    | 3.4    | —          | .4       | 3.8         |
| " " "                       | May       | 41.5 | 55.0   | .8         | 1.1   | .8     | .8                    | 3.5    | .1         | .2       | 3.8         |
| " " "                       | June      | 39.4 | 58.4   | .3         | .4    | .8     | .7                    | 2.2    | .7         | .8       | 3.7         |
| " " "                       | October   | 31.2 | 63.2   | 3.9        | .4    | .9     | .4                    | 5.6    | 2.2        | .3       | 8.1         |
| " " "                       | November  | 38.2 | 53.3   | 6.6        | .6    | .9     | .4                    | 8.5    | 4.2        | 1.4      | 14.1        |
| " " "                       | December  | 31.1 | 66.0   | .5         | .4    | .9     | 1.1                   | 2.9    | 5.7        | 1.0      | 9.6         |
| Soft Red Calcutta           | April     | 93.8 | 1.8    | 1.3        | 1.2   | 1.1    | .8                    | 4.4    | —          | .4       | 4.8         |
| " " "                       | May       | 90.5 | 5.6    | .9         | .8    | 1.3    | .9                    | 3.9    | .2         | .6       | 4.7         |
| " " "                       | June      | 87.7 | 7.4    | 1.7        | .6    | 1.1    | 1.5                   | 4.9    | 1.3        | .8       | 7.0         |
| " " "                       | July      | 89.9 | 2.7    | 4.8        | .5    | .7     | 1.4                   | 7.4    | .8         | —        | 8.2         |
| " " "                       | August    | 90.5 | 3.8    | 1.6        | .5    | 1.2    | 2.4                   | 5.7    | 3.2        | .2       | 9.1         |
| " " "                       | September | 91.3 | 4.2    | 1.3        | .6    | 1.0    | 1.6                   | 4.5    | 3.7        | .7       | 8.9         |
| " " "                       | November  | 88.8 | 5.1    | 1.5        | .7    | 1.8    | 2.1                   | 6.1    | 6.1        | .5       | 12.7        |
| " " "                       | December  | 91.3 | 4.8    | .8         | .8    | 1.3    | 1.0                   | 3.9    | 5.3        | .4       | 9.6         |

TABLE NO. 2.

Indian Wheats imported from Bombay and Karachi.

| Description of Wheat.     | Date.          | Red. | White. | Admixture. |       |        |                       |        | Weevilled. | Damaged. | Total Loss. |
|---------------------------|----------------|------|--------|------------|-------|--------|-----------------------|--------|------------|----------|-------------|
|                           |                |      |        | Dust.      | Dirt. | Seeds. | Barley, Oats, or Rye. | Total. |            |          |             |
| Choice White Bombay       | 1887. February | 4.5  | 94.1   | .1         | 1.1   | .2     | —                     | 1.4    | —          | .5       | 1.9         |
| No. 1 Club Bombay (White) | April          | 10.1 | 87.2   | .7         | 1.3   | .7     | —                     | 2.7    | .1         | .4       | 3.2         |
| " " "                     | May            | 11.5 | 86.4   | .4         | 1.4   | .3     | —                     | 2.1    | —          | .2       | 2.3         |
| " " "                     | June           | 10.6 | 86.8   | .4         | 1.8   | .4     | —                     | 2.6    | —          | .6       | 3.2         |
| " " "                     | July           | 11.6 | 84.8   | 1.3        | 1.4   | .9     | —                     | 3.6    | .5         | .7       | 4.8         |
| " " "                     | August         | 11.1 | 86.5   | .9         | .5    | 1.0    | —                     | 2.4    | .5         | .4       | 3.3         |
| " " "                     | September      | 10.5 | 87.7   | .7         | .6    | .5     | —                     | 1.8    | 2.4        | .8       | 5.0         |
| " " "                     | October        | 12.0 | 85.4   | .6         | .9    | 1.1    | —                     | 2.6    | 4.2        | .9       | 7.7         |
| " " "                     | November       | 12.6 | 82.9   | 2.1        | 1.5   | .9     | —                     | 4.5    | 1.4        | .4       | 6.3         |
| " " "                     | December       | 10.9 | 86.8   | .4         | 1.1   | .8     | —                     | 2.3    | .7         | .6       | 3.6         |
| Soft Red Bombay           | April          | 97.8 | .4     | .4         | 1.4   | —      | —                     | 1.8    | —          | —        | 1.8         |
| " " "                     | May            | 97.5 | .9     | .9         | .7    | —      | —                     | 1.6    | —          | —        | 1.6         |
| " " "                     | June           | 96.2 | 1.5    | 1.1        | 1.2   | —      | —                     | 2.3    | —          | —        | 2.3         |
| Hard White Bombay         | April          | 21.1 | 77.8   | .2         | .8    | .1     | —                     | 1.1    | —          | —        | 1.1         |
| " " "                     | August         | 16.8 | 81.7   | .4         | 1.1   | —      | —                     | 1.5    | .6         | —        | 2.1         |
| Hard Red Bombay           | March          | 97.4 | .8     | .8         | 1.0   | —      | —                     | 1.8    | —          | .3       | 2.1         |
| " " "                     | April          | 96.7 | 1.7    | .4         | 1.1   | .1     | —                     | 1.6    | —          | .6       | 2.2         |
| " " "                     | July           | 95.7 | 1.6    | .3         | 1.9   | .5     | —                     | 2.7    | —          | .5       | 3.2         |
| Red Club Bombay           | June           | 73.2 | 24.0   | .4         | 1.8   | .6     | —                     | 2.8    | .2         | .6       | 3.6         |

TABLE No. 2—continued.

| Description of Wheat. | Date.           | Red. | White. | Admixture. |       |        |                       |        | Weevilled. | Damaged. | Total Loss. |
|-----------------------|-----------------|------|--------|------------|-------|--------|-----------------------|--------|------------|----------|-------------|
|                       |                 |      |        | Dust.      | Dirt. | Seeds. | Barley, Oats, or Rye. | Total. |            |          |             |
| White Jubbulpur - -   | 1887.<br>July - | 15·0 | 81·8   | ·6         | 1·0   | 1·6    | —                     | 3·2    | —          | ·4       | 3·6         |
| White Delhi - -       | May -           | 23·2 | 73·7   | ·9         | ·2    | ·8     | 1·2                   | 3·1    | —          | ·4       | 3·5         |
| " "                   | June -          | 19·0 | 77·1   | 1·0        | ·3    | 1·1    | 1·5                   | 3·9    | ·2         | ·5       | 4·6         |
| " "                   | July            | 15·9 | 78·6   | ·5         | 1·1   | ·7     | 3·2                   | 5·5    | ·5         | ·6       | 6·6         |
| Red Delhi - -         | July            | 93·4 | ·9     | ·9         | ·7    | ·6     | 3·5                   | 5·7    | ·5         | ·7       | 6·9         |
| Atbara (Red)          | February -      | 96·8 | ·6     | ·6         | 1·4   | ·6     | —                     | 2·6    | 3·4        | 1·9      | 7·9         |
| " "                   | March           | 95·4 | 1·0    | 1·5        | 1·6   | ·5     | —                     | 3·6    | —          | —        | 3·6         |
| " "                   | April -         | 94·8 | 1·1    | 2·1        | 1·5   | ·5     | —                     | 4·1    | —          | ·4       | 4·5         |
| " "                   | May             | 97·0 | ·3     | ·5         | 1·7   | ·5     | —                     | 2·7    | —          | —        | 2·7         |
| White Karachi - -     | July            | 17·1 | 78·3   | ·8         | ·7    | ·8     | 2·3                   | 4·6    | ·3         | ·7       | 5·6         |
| " "                   | October         | 34·3 | 58·2   | 1·2        | ·4    | ·8     | 5·1                   | 7·5    | 1·7        | ·6       | 9·8         |
| " "                   | December        | 19·2 | 70·5   | ·8         | ·5    | ·4     | 8·6                   | 10·3   | 1·3        | ·6       | 12·2        |
| Red Karachi - -       | July            | 86·0 | 6·6    | ·6         | ·6    | 1·0    | 5·2                   | 7·4    | ·2         | ·3       | 7·9         |
| " "                   | December        | 79·4 | 12·1   | ·2         | ·6    | —      | 7·7                   | 8·5    | ·8         | —        | 9·3         |

TABLE No. 3.

## European Wheats.

| Description of Wheat.              | Date.  | Red. | White. | Admixture. |       |       |                       |        | Weevilled. | Damaged. | Total Loss. |
|------------------------------------|--------|------|--------|------------|-------|-------|-----------------------|--------|------------|----------|-------------|
|                                    |        |      |        | Dust.      | Dirt. | Seed. | Barley, Oats, or Rye. | Total. |            |          |             |
| English White - -                  | 1888 - | 2·4  | 97·5   | —          | —     | ·1    | —                     | ·1     | —          | ·3       | ·4          |
| " Red - -                          | " -    | 97·0 | 2·7    | —          | —     | ·3    | —                     | ·3     | —          | ·2       | ·5          |
| Konigsburg (Red) - -               | " -    | 98·5 | ·2     | —          | —     | ·4    | ·9                    | 1·3    | —          | 1·5      | 2·8         |
| Danzig (White) - -                 | " -    | 27·4 | 71·3   | ·1         | ·1    | ·5    | ·6                    | 1·3    | —          | ·8       | 2·1         |
| Russian :—<br>St. Petersburg (Red) | " -    | 98·2 | —      | ·1         | —     | 1·0   | ·7                    | 1·8    | —          | 2·8      | 4·6         |
| Taganrog Azima (Red) - -           | 1887 - | 95·8 | ·3     | —          | ·2    | ·1    | 3·6                   | 3·9    | —          | ·3       | 4·2         |
| " " " - -                          | "      | 89·8 | —      | —          | ·1    | ·5    | 9·6                   | 10·2   | —          | ·5       | 10·7        |
| " Hard " - -                       | "      | 52·8 | 44·1   | ·1         | ·4    | ·2    | 2·4                   | 3·1    | —          | ·6       | 3·7         |
| Ghirka " - -                       | "      | 98·1 | —      | ·2         | ·2    | ·9    | ·6                    | 1·9    | —          | 1·3      | 3·2         |
| Common Odessa " - -                | "      | 91·2 | —      | ·5         | —     | 1·6   | 6·7                   | 8·8    | —          | 3·8      | 12·6        |
| Egyptian Saida (White) - -         | " -    | 46·0 | 42·2   | ·3         | 6·4   | ·6    | 4·5                   | 11·8   | ·5         | ·1       | 12·4        |

TABLE NO. 4.

## American and Australian Wheats.

| Description of Wheat.        | Date. | Red. | White. | Admixture. |       |        |                       |        | Weevilled. | Damaged. | Total Loss. |
|------------------------------|-------|------|--------|------------|-------|--------|-----------------------|--------|------------|----------|-------------|
|                              |       |      |        | Dust.      | Dirt. | Seeds. | Barley, Oats, or Rye. | Total. |            |          |             |
| American:—                   |       |      |        |            |       |        |                       |        |            |          |             |
| No. 1 Hard Duluth (Red) -    | 1887  | 98·5 | ·2     | ·3         | —     | ·8     | ·2                    | 1·3    | —          | ·9       | 2·2         |
| Duluth                       | "     | 98·1 | ·4     | ·6         | —     | ·9     | —                     | 1·5    | —          | ·2       | 1·7         |
| Red Winter - "               | "     | 98·7 | ·2     | ·3         | —     | ·8     | —                     | 1·1    | —          | 1·0      | 2·1         |
| " " No. 2 - "                | "     | 98·7 | ·2     | ·2         | —     | ·6     | ·3                    | 1·1    | —          | 1·8      | 2·9         |
| " Chicago No. 2              | "     | 96·7 | 2·0    | ·6         | —     | ·5     | ·2                    | 1·3    | —          | ·4       | 1·7         |
| " Hard Spring No. 1          | "     | 98·8 | ·3     | ·2         | —     | ·6     | ·1                    | ·9     | —          | ·2       | 1·1         |
| " Springs No. 2 -            | "     | 97·8 | 1·0    | ·3         | —     | ·6     | ·3                    | 1·2    | —          | 1·1      | 2·3         |
| Red North West Springs No. 2 | "     | 98·6 | ·1     | ·3         | —     | ·5     | ·5                    | 1·3    | —          | ·8       | 2·1         |
| " Milwaukie Springs No. 2 -  | "     | 97·0 | ·8     | ·8         | —     | 1·0    | ·4                    | 2·2    | —          | 2·1      | 4·3         |
| Oregon (White)               | "     | 2·3  | 97·0   | —          | —     | ·2     | ·5                    | ·7     | —          | —        | ·7          |
| Californian No. 1 - "        | "     | 5·3  | 93·3   | —          | —     | ·7     | ·7                    | 1·4    | —          | ·1       | 1·5         |
| " No. 2 "                    | "     | 6·5  | 87·8   | —          | —     | 2·8    | 2·9                   | 5·7    | ·1         | ·5       | 6·3         |
| " Amber No. 1 "              | "     | 3·0  | 92·9   | —          | —     | ·8     | 3·3                   | 4·1    | —          | ·2       | 4·3         |
| " " No. 2 "                  | "     | 9·2  | 81·7   | —          | ·1    | 2·5    | 6·5                   | 9·1    | —          | ·4       | 9·5         |
| Chilian                      | "     | 15·5 | 82·5   | ·2         | ·1    | 1·7    | —                     | 2·0    | —          | 1·1      | 3·1         |
| Australian Melbourne - "     | 1888  | 1·4  | 97·8   | ·1         | —     | ·7     | —                     | ·8     | —          | ·3       | 1·1         |
| " South Australian "         | "     | 1·2  | 97·9   | —          | ·1    | ·8     | —                     | ·9     | —          | ·2       | 1·1         |
| New Zealand:                 |       |      |        |            |       |        |                       |        |            |          |             |
| Round                        | "     | 27·7 | 72·1   | —          | —     | —      | ·2                    | ·2     | —          | ·1       | ·3          |
| Long                         | "     | 2·4  | 96·8   | —          | —     | ·8     | —                     | ·8     | —          | —        | ·8          |

## APPENDIX B.

Letter from the Honourable F. FORBES ADAM to His Excellency the GOVERNOR OF BOMBAY.

Bombay.

25th August 1888.

Dear Lord Reay,

As regards wheat adulteration, about which you write, I regret to say that little progress has been made in the right direction since I first pressed the matter on the attention of the Chamber of Commerce some years ago. We have within the last few months moved forward, but the position is not yet satisfactory. The fault lies not at the door of the Bombay exporters, but with millers, buyers, and corn trade associations in England. The truth is people in England do not and cannot be expected fully to realize the drawbacks caused to the India wheat trade by having to ship dirty wheat, nor can they understand the importance to India, in her competition with other exporting countries (America and Russia chiefly), of getting rid of what is actually a tax, and which operates in the same way as an export duty, or nearly so,—I mean the railway carriage from the interior to the sea coast, and the sea freight from the port of shipment to the consuming country, of 4 per cent. of purely useless dirt. I showed by figures that in 1885 the tax was equal to about  $1\frac{1}{4}$  per cent. on the value of the wheat shipped.

But the importance is brought home to us here, and I am satisfied that all leading export houses would heartily welcome a change to a healthier basis of operations. Practically Indian wheat, under present circumstances, cannot be shipped quite free from dirt and impurities, but it would be quite possible to conduct the business on a 2 per cent. basis, and this I have been endeavouring to bring about.

At a meeting of the Chamber of Commerce on 9th April last, the subject was very fully discussed, and it was resolved again to address the London and Liverpool Corn Trade Associations, begging them to fix the refractions on all sale contracts of wheat if "not over 2 per cent.," as Bombay shippers were anxious to improve the name of India wheat, and also remove the disadvantages that accrued from shipping large admixtures of dirt, &c. The Associations were urged to assist us in the matter. The reply from the London Association reached us in May last. It was to the effect



that members having fully considered the representations of the Bombay Chamber were not able to adopt the proposals made, as buyers in England had made no objection to the existing form of contract, and sellers were divided in opinion.

The response of the Liverpool Association was, I am happy to say, more satisfactory. It arrived only a few weeks ago, and is dated 12th July. It said that members were desirous of meeting the views of the Bombay Chamber, and had decided to alter the standards of wheat on which sales were made, and that these standards would in future contain only "2 per cent. of dirt, seeds, and grain other than wheat."

This is how the trade stands to day, so far as Bombay is concerned, and I am not without hopes that before long the London Association will reconsider their decision and follow the commendable example of the Liverpool body.

As you know, exporters have to ship quality equal to what is sold. If the English Association decided to buy only pure wheat, the Bombay merchants would have to ship it. But as, unfortunately, the Associations seem to prefer to buy wheat with 4 per cent. of dirt in it, the Bombay merchant has no say in the matter, but must supply what is wanted or stop his business.

Any other information you may wish I will gladly supply.

Believe me,

Yours sincerely,

(Signed) F. FORBES ADAM.

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### Report on Impurities in Indian Wheats. No. 3.

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Greenwich,

25th March 1889.

Sir,

I have to acknowledge the receipt of your letter of the 25th February, stating that you have received replies from the millers and Chambers of Commerce to the questions issued with my last report on the impurities of Indian wheats. Appendix A.

Sir George Birdwood has forwarded these replies to me, together with an analysis of them.

The Circular Letter of Mr. J. A. Godley, C.B., of the 31st December 1888, enclosing a copy of a form of six questions (Appendix B), was addressed to 732 of the principal millers in the United Kingdom; up to the date of this report 510 millers (Appendix C) have returned the forms duly filled up, and Mr. B. J. Rose's very carefully prepared analysis of their replies is given below.

"Question 1. Do you use Indian wheat in quantity?"

249 millers state that they use Indian wheat in quantity.

259 millers only use Indian wheat in limited quantity.

2 do not reply to this question."

"Question 2. If not, are you prevented from so doing by its impurities?"

348 millers state that they are partly prevented from using Indian wheats in consequence of its impurities.

41 millers having the necessary machinery to deal with the dirt, &c., are not prevented from using Indian wheat.

121 do not reply to this question."

"Question 3. Would you use larger quantities if free from admixture and impurity?"

461 millers state that they would use a much larger quantity of Indian wheat if they could obtain it in a clean state.

27 millers state that even if clean they could not use a larger quantity of Indian wheat.

22 do not reply to this question."

"Question 4. Is the admixture of red wheat with white wheat of serious consideration to you?"

229 millers state that the admixture of red (or hard) with white (or soft) wheat is of serious importance to them, as the red hard wheat can only be reduced by roller mills.'

256 millers, most of whom have "roller mills," are indifferent as to the admixture.

25 do not reply to this question."

“ *Question 5.* The shipments in the later months of the year show considerable increase of impurities. Do you in preference secure the earlier shipments; and, if so, do you pay a higher price for the same?”

322 millers state that they prefer the early shipments and pay higher prices for them.

16 state that they are indifferent, it being merely a question of relative values.

172 do not reply; most of these millers dealing indirect with merchants are unable to give an opinion.”

“ *Question 6.* Would you approve of a form of contract limiting the admixture of dirt, seeds, and grain other than wheat to 2 per cent. in preference to the present ‘F. A. Q.’ form?”

429 millers express their warm approval of a form of contract limiting the admixture to 2 per cent.

4 millers are against any alteration.

57 who do not reply are mostly millers unacquainted with the form of purchase; they buy locally from merchants.”

A number of interesting extracts from the more important general remarks made by the millers after the answers to the questions are given in Appendix D.

It can now no longer be stated that buyers in England have made no objection to the existing form of contract.

I have made diligent inquiries on the market, and have to report a very general desire for a change of form of contract, to secure a supply of clean wheat. Great pleasure is expressed that Viscount Cross and the Indian Council have taken up the matter, and the opinion is largely held that it should now be pressed to a satisfactory conclusion, even to the extent, if necessary, of an Act being passed to make it a fraud to deal in wheats containing an excessive amount of seeds and dirt, as was the case in cotton.

Clean Indian wheats are particularly useful to English millers. Damp English wheats can readily be put into condition by mixing with the dry Indian wheats which absorb the excessive moisture and so benefit both.

There is an important national reason why wheats from India should be shipped in a clean condition, viz., that, in case of war, all sources of European wheats might be stopped, and it would be desirable that wheats should be shipped from our Colonies in a condition fit for immediate use. It would be quite impossible to grind for human food the dirty wheat now shipped from India by itself uncleaned.

It has been stated that those millers who have already provided themselves with extensive machinery for cleaning wheats would object to the change, but on looking through the replies I find, with hardly an exception, that they express a strong wish to have clean wheat.

Most other products from India are shipped in a better condition than wheat.

*Rice* is perfectly free from all admixture, except its own husk.

*Linseed*, some years ago, arrived mixed with a large percentage of dirt, but a new contract form, limiting all admixture to 4 per cent., was adopted, and now linseed arrives in a clean condition.

*Cotton* was shipped in a very dirty condition until the authorities interfered to prevent the admixture of impurities, and passed the Bombay Cotton Frauds Act of 1863 and 1878; this Act has since been repealed, and I have been informed by a cotton broker that he could tell by the altered condition of shipment the month that the Act was withdrawn.

The replies from the Chambers of Commerce show that they do not take a very direct interest in grain. Those who do reply approve of the effort now being made to import clean wheat. The reply from the Cardiff Chamber expresses the conviction that “the present fair average quality form is a direct incentive to ship impurities, and that the only solution of the difficulty is a permanent percentage standard, which the quantities of extraneous matter must not exceed.”

This view is undoubtedly the correct one, and is the cause of all the admixture being made.

In looking through the grain contract forms from other countries I find that *Australia* and *New Zealand* are the only countries which ship entirely upon the fair average quality system, but there has never been any admixture of dirt.

*California* ships equal to official sample, in good condition.

*Chili* ships equal to official sample, in good condition.

*America* (Atlantic States) ships on graded sample, in good condition.

*La Plata* ships, upon marked sample, in good condition.

The *Black Sea* is nearly all upon sample.

The *Baltic* is all upon sample.

*Russian barley* is now sold upon what is known as the Bristol clause which limits the amount of admixture to 3 per cent.

The very interesting letter addressed to Viscount Cross by Messrs. Marshall Sons & Co. (see Appendix E) very fully confirms the information we have as to the actual mixing of dirt with wheat, and it was admitted to me a few days ago, by a shipper of wheat from India, that they bought wheat in the latter months of the season with 6 per cent. of dirt, and relied for their profit upon this percentage of dirt.

The replies now received conclusively prove,—

1. that the impurities in Indian wheats greatly restrict their use ;
2. that clean Indian wheats are much desired, and would cause a largely increased demand and a higher price ;
3. that millers earnestly desire a new contract form limiting admixture to under 2 per cent.

And I have now to suggest several means which would ensure the object aimed at :—

1. by the mutual consideration of the subject by the Indian Council and by representatives from the various corn trade Associations ;
2. by the formation of a syndicate to purchase and export clean Indian wheats ;
3. by the intervention, should it be found necessary, of the Government of India, to make it fraudulent to deal in or export grain to be used for human food in any way adulterated.

I am sanguine that the first of these suggestions may of itself prove successful in bringing about the desired reform, as I cannot but think that the selfish interest of a few large firms must give way to the unanimous desire of the millers of this country, and to the great ultimate benefit of all concerned.

But, if not, I do not hesitate to strongly advise that the third of these suggestions should be promptly adopted.

In connection with this inquiry, I think the fact should not be overlooked that Italy, France, and Belgium are buyers of the better class Indian wheats, and if these wheats were clean there is no doubt this portion of the trade would receive a great impulse, as on the Continent they are less able to deal with the impurities than we are here, and consequently only the high class wheats are in demand.

I am, Sir,

Your obedient servant,

JOHN M'DOUGALL.

The Under Secretary of State  
for India.

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#### APPENDIX A.

Letter from the Under Secretary of State for India to  
John M'Dougall, Esq., C.C.

India Office, Whitehall, S.W.,  
25th February 1889.

Sir,

In continuation of my letter of the 15th December last, I am directed by the Secretary of State for India in Council to inform you that the replies of the millers and Chambers of Commerce of the United Kingdom to the questions prepared by you on impurities in Indian wheats have now been received ; and Sir George Birdwood has been directed to submit them to you for report before they are forwarded to the Government of India.

I am, Sir,

Your obedient servant,

J. A. GODLEY.

## APPENDIX B.

Copy of Circular Letter of the Under Secretary of State for India  
addressed to 732 Millers.

R., S., & C. 1602.

India Office, Whitehall, S.W.,  
31st December 1888.

Sir,

I am directed by the Secretary of State for India in Council to forward to you the enclosed copy of a Report by Mr. John M'Dougall, late of Messrs. McDougall Brothers, 10, Mark Lane, on Impurities in Indian Wheats; and to say that Viscount Cross will be greatly obliged by your replying to the accompanying questions relating to the same, and for any further remarks on the subject with which you may be pleased to favour His Lordship.

I am, Sir,  
Your obedient servant,  
J. A. GODLEY.

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Enclosure to Mr. Godley's Letter of the 31st December 1888.

Impurities in Indian Wheats.

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*Question 1.* Do you use Indian wheat in quantity?

*Answer.*

*Question 2.* If not, are you prevented from so doing by its impurities?

*Answer.*

*Question 3.* Would you use larger quantities if free from admixture and impurity?

*Answer.*

*Question 4.* Is the admixture of red wheat with white wheat of serious consideration to you?

*Answer.*

*Question 5.* The shipments in the later months of the year show considerable increase of impurities. Do you in preference secure the earlier shipments; and, if so, do you pay a higher price for the same?

*Answer.*

*Question 6.* Would you approve of a form of contract limiting the admixture of dirt, seeds, and grain other than wheat to 2 per cent., in preference to the present F. A. Q. form?

*Answer.*

*Remarks.*

Address \_\_\_\_\_

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(Signature) \_\_\_\_\_

Date \_\_\_\_\_

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## APPENDIX C.

Number and Distribution of the Millers to whom Mr. M'Dougall's  
Report No. 2 was submitted.

## England and Wales.

| County.       | Number of<br>Forms<br>sent. | Number of<br>Forms<br>returned. | County.        | Number of<br>Forms.<br>sent. | Number of<br>Forms<br>returned. |
|---------------|-----------------------------|---------------------------------|----------------|------------------------------|---------------------------------|
| Bedford       | 5                           | 5                               | Leicester      | 6                            | 4                               |
| Berkshire     | 11                          | 7                               | Lincoln        | 22                           | 18                              |
| Bucks         | 3                           | 2                               | Merioneth      | 1                            | 1                               |
| Cambridge     | 5                           | 4                               | Middlesex      | 10                           | 6                               |
| Carnarvon     | 6                           | 3                               | Monmouth       | 7                            | 3                               |
| Cheshire      | 17                          | 13                              | Montgomery     | 1                            | 1                               |
| Cornwall      | 9                           | 8                               | Norfolk        | 10                           | 8                               |
| Cumberland    | 9                           | 7                               | Northampton    | 10                           | 6                               |
| Denbigh       | 3                           | 2                               | Northumberland | 7                            | 6                               |
| Derby         | 16                          | 7                               | Nottingham     | 15                           | 11                              |
| Devon         | 15                          | 7                               | Oxford         | 7                            | 7                               |
| Dorset        | 5                           | 3                               | Rutland        | 1                            | 1                               |
| Durham        | 25                          | 16                              | Shropshire     | 8                            | 5                               |
| Essex         | 15                          | 9                               | Somerset       | 10                           | 6                               |
| Flint         | 3                           | 2                               | Stafford       | 19                           | 12                              |
| Glamorgan     | 3                           | 1                               | Suffolk        | 8                            | 5                               |
| Gloucester    | 24                          | 21                              | Surrey         | 14                           | 10                              |
| Guernsey      | 1                           | 1                               | Sussex         | 7                            | 6                               |
| Hampshire     | 12                          | 9                               | Warwick        | 16                           | 11                              |
| Herefordshire | 8                           | 8                               | Wiltshire      | 15                           | 12                              |
| Hertfordshire | 6                           | 2                               | Worcester      | 13                           | 7                               |
| Huntingdon    | 4                           | 4                               | Yorkshire      | 103                          | 77                              |
| Isle of Man   | 1                           | 1                               |                |                              |                                 |
| Kent          | 18                          | 14                              | Total          | 597                          | 428                             |
| Lancashire    | 63                          | 50                              |                |                              |                                 |

## Scotland.

| County.    | Number of<br>Forms<br>sent. | Number of<br>Forms<br>returned. | County.  | Number of<br>Forms<br>sent. | Number of<br>Forms<br>returned. |
|------------|-----------------------------|---------------------------------|----------|-----------------------------|---------------------------------|
| Aberdeen   | 1                           | 1                               | Lanark   | 11                          | 10                              |
| Ayr        | 4                           | 2                               | Roxfrew  | 3                           | 1                               |
| Banff      | 1                           | 1                               | Roxburgh | 1                           | 1                               |
| Edinburgh  | 6                           | 5                               | Stirling | 2                           | 0                               |
| Fife       | 3                           | 3                               |          |                             |                                 |
| Forfar     | 2                           | 1                               | Total    | 35                          | 26                              |
| Haddington | 1                           | 1                               |          |                             |                                 |

## Ireland.

| County.       | Number of<br>Forms<br>sent. | Number of<br>Forms<br>returned. | County.        | Number of<br>Forms<br>sent. | Number of<br>Forms<br>returned. |
|---------------|-----------------------------|---------------------------------|----------------|-----------------------------|---------------------------------|
| Antrim        | 10                          | 8                               | Louth          | 3                           | 1                               |
| Armagh        | 2                           | 2                               | Mayo           | 1                           | 0                               |
| Carlow        | 1                           | 1                               | Meath          | 6                           | 2                               |
| Clare         | 1                           | 0                               | Queen's County | 3                           | 1                               |
| Cork          | 17                          | 7                               | Sligo          | 1                           | 0                               |
| Down          | 3                           | 3                               | Tipperary      | 5                           | 1                               |
| Dublin        | 12                          | 10                              | Tyrone         | 2                           | 2                               |
| Galway        | 1                           | 0                               | Waterford      | 3                           | 1                               |
| Kerry         | 1                           | 0                               | West Meath     | 2                           | 0                               |
| Kildare       | 5                           | 4                               | Wexford        | 3                           | 2                               |
| Kilkenny      | 4                           | 2                               | Wicklow        | 5                           | 4                               |
| King's County | 2                           | 2                               |                |                             |                                 |
| Limerick      | 3                           | 1                               | Total          | 100                         | 56                              |
| Londonderry   | 2                           | 2                               |                |                             |                                 |

## APPENDIX D.

A Selection of Extracts from the more important General Remarks made by Millers.

## REMARKS.

No. 10. *Belfast*.—Using 9,000 tons a year of Indian wheat. States stones are the worst and most troublesome impurity. Red and white wheats would fetch more if separate. Belfast is one of the largest importers of Indian wheat, its flour being liked in the north of Ireland for making bread with soda and buttermilk, instead of yeast.

No. 20. *Bedford*.—Suggests that all corn having over 2 per cent. admixture should be compulsorily cleaned at port of entry before being offered for sale.

No. 34. *Berwick-on-Tweed*.—Indian wheat having to be washed before use renders it useless for mixing with damp wheats.

No. 43. *County Carlow*.—"When we can get Indian wheats free from impurities, they will rise in value in our markets and will be worked in much larger quantities by most millers."

No. 46. *Bangor*.—Indian wheats are principally used by the larger mills, but it must not be forgotten that in the aggregate the smaller mills, spread over the country, form a considerable portion of the grinding power of the country.

No. 58. *Chester*.—Used 5,500 tons Indian wheat 1888. Would use much larger quantities if clean.

No. 65. *Stockport*.—A large user of Indian wheat. Considers any arrangement of form of contract which would improve matters is very desirable, and would materially assist development of the trade.

No. 88. *Penzance*.—Considers the present F. A, Q. form an instrument to legalize fraud on millers.

No. 121. *Derby*.—"The millers can take care of themselves, please let them alone. I buy wheat for what I think it is worth, dirt and all."

No. 131. *Tiverton*.—Prefers the flour from clean Indian wheat to that of any other foreign white wheat.

No. 138. *Devon*.—Has not used Indian wheat for past three years in consequence of the dirt, &c. The quality varied as much as 4s. per quarter between one bag and another.

No. 149. *Dublin*.—Is of opinion that a competitive trial of wheat cleaning machinery would be of great advantage.

No. 151. *Dublin*.—States that stones and clay are the worst impurities in Indian wheats. Also states that they are greatly pleased to see that the Government are interested in this very important matter.

No. 153. *Dublin*.—"I am most anxious to support any colony of the British Empire in preference to America, and am convinced if the India wheat was as pure and free from dirt it would get a great sale in Ireland."

No. 154. *Dublin*.—No direct imports into Dublin port. Freight from Liverpool brings price of Indian wheat high, and its use has always been obstructed by the necessity of washing before use.

No. 161. *Darlington*.—Dirt and dust gets into the weevil holes and it cannot be removed. This injures quality of the flour.

No. 167. *Darlington*.—Thinks that Indian wheats if sent clean would show a clear saving to the sender of fully 2s. per quarter.

No. 174. *Durham*.—Would approve of any measures tending to bring wheat in a cleaner condition.

No. 180. *Stockton*.—Indian wheats would have been of great service last year, on account of the excessive moisture in our English wheats, had they been clean.

No. 186. *Edinburgh*.—If the Indian wheats were shipped clean they would be largely used. Washing affects their baking qualities, and prevents their use.

No. 207. *Kirkcaldy*.—If we could get the fine white wheats clean we could use a considerable quantity.

No. 217. *Cardiff*.—"In order to place the trade on a really satisfactory basis, we hold that the Corn Trade Associations in London and Liverpool should make up standards of all the different grades of wheat at the beginning of the season, and



“that all contracts should be made for quality equal thereto, instead of as present for fair average quality. The Californian trade is conducted on such a contract, which gives satisfaction to both buyer and seller, and it is well known to what vast proportions this trade has grown. We have for some time past urged the Corn Trade Associations in London and Liverpool to take action in this sense, and with such a contract and guarantee of not more than 2 per cent. admixture of foreign matter we should predict a vast increase in the general demand for East Indian wheats.”

No. 235. *Gloucester*.—Many country millers are prevented from using Indian wheats, not having the necessary machinery to remove the dirt, and other impurities.

No. 241. *Gloucester*.—“If Indian wheat was free from stones and dirt, I should use 5,000 quarters a year.”

No. 248. *Basingstoke*.—Millstone millers are almost prevented from using Indian wheats, on account of the impurities.

No. 270. *Huntingdon*.—Have used from 4,000 to 5,000 tons a year of Indian wheat; would use much more if clean.

No. 271. *Huntingdon*.—The early shipments of Indian wheat are always worth more than the late, they are used as baits, the shippers knowing that the average of the earlier months will not affect the quality they are bound to deliver. Large shippers are able to ship so much *bad* wheat that they can affect the standard by which the contract is fixed, and so cheat their customers. If A can manage to ship half the wheat of one month of a quality 2s. per quarter below other shippers, the standard of the month will be lowered 1s. per quarter, and he will only have 1s. per quarter deducted from him for bad delivery, whereas he has saved 2s. per quarter in the cost of the wheat shipped. Of course this is an exaggerated case, but it is always in a degree true.

No. 274. *Isle of Man*.—Would use Indian wheat extensively if properly cleaned.

No. 286. *Gravesend*.—Indian wheat is of excellent quality, and if clean it would compete successfully with American and Russian, which millers cannot at present dispense with.

No. 296. *Kildare*.—Indian wheat would be more largely used in this district if it was free from clay, &c. “Having at one time used a large proportion of Indian wheat for flour for the Government Bakery, Curragh Camp, it was objected to by the supply officer, on the ground that the loaf was too small.”

No. 301. *Kilkenny*.—States that it would be of immense advantage to English and Irish millers to be able to procure Indian wheat in such a condition that ordinary cleansing machinery would be sufficient to render it fit to manufacture.

No. 304. *King's County*.—“We have used so very little Indian wheat, owing to its impurity, that we cannot give as full an opinion as we should wish.”

No. 307. *Glasgow*.—Indian wheats, if freed from impurities, would be invaluable for admixture with native Scotch wheats, and would soon be appreciated here.

No. 309. *Glasgow*.—If we had a regular supply of clean, fine Indian wheats, we are convinced that they would largely take the place of both Russian and American wheats.

No. 319. *Blackburn*.—The admixture of dirt, &c., in Indian wheats causes nothing but loss to all concerned, and discomfort to all who work in or about it, and in many places the miller dare not use Indian wheat, for fear of creating a nuisance to his neighbours when cleaning it.

No. 321. *Liverpool*.—States that the mixture of heated and damaged grain with wheat is the most serious difficulty which the miller has to contend with. Modern wheat cleaning machinery will eliminate the dirt and most of the foreign seeds, but it is impossible by any process to separate damaged wheat from sound.

No. 334. *Accrington*.—If Indian wheats could be delivered in the same clean condition as those from America and all our Colonies, there would be an immense impetus given to its use.

No. 335. *Liverpool*.—Uses an average of 26,000 tons a year of Indian wheat. Considers the present F. A. Q. form a moveable standard of quality, and therefore unsatisfactory to the consumer.

No. 336. *Manchester*.—Uses Indian wheat almost exclusively. Are not bread flour millers, but size flour makers, and often buy wheats that cannot be used for food on account of the impurities. Only on this account are the impurities an advantage to us.

No. 339. *Bolton*.—If Indian wheats could be supplied as free from impurities as grain from other countries, we should use a much larger quantity, probably 10 to 20 per cent. more.

No. 348. *Manchester*.—"I think I am one of the largest consumers of Indian wheat, say about 50,000 to 70,000 qrs. per year. I would suggest that all wheat for shipment *via* the Cape after June should be placed in bins before shipment, and subjected for a few hours to the vapour of burning sulphur, to destroy the weevils, which are very destructive in Cape cargoes."

No. 357. *Liverpool*.—"There is one point nowhere named in Mr. McDougall's report, nor have I seen it elsewhere, but which has struck me very forcibly. It is that the use of Indian wheats by English millers has caused a sensible increase in the demand for English farmers' wheat for the sake of the mellowness and flavour needed to counteract the ricey tendency of even the best Indian wheats."

No. 373. *Cheshire*.—Would use 20 per cent. more Indian wheat if it was clean.

No. 376. *Barrow-in-Furness*.—Uses from 8,000 to 10,000 tons of Indian wheat a year. A great number of small mills are prevented from using Indian wheats on account of the costly machinery needed to clean them.

No. 388. *Doncaster*.—If anything can be done in favour of importing Indian wheat in a purer state, it would receive support.

No. 389. *Boston*.—If Indian wheats could be imported as clean as the Californian or American red wheat, would hardly ever buy any other kind of foreign wheat.

No. 393. *Carlton*.—Tried Indian wheat, but found it would not work satisfactorily after receiving similar cleaning to that given to Russian and American wheats.

No. 398. *Lincoln*.—Found the dirt in form of dust very injurious to the health of wheat porters and millers. There is great need of improvement.

No. 400. *Lincoln*.—Would use our own colonial wheats in preference to others, if they could be obtained clean, but at present the waste is too great.

No. 403. *Lincoln*.—"We prefer Indian to Russian wheat, but we want less dirt."

No. 405. *Lincoln*.—"We are exceedingly pleased to see that this matter is receiving attention, and we trust results will be beneficial. We think the Indian wheats are worse this year than last."

No. 411. *Londonderry*.—Indian wheat, if shipped clean, would be of advantage to the growers, and all others concerned. Indian wheat would then compete on more equal terms with American, Australian, and Russian.

No. 425. *Isleworth*.—State the flour made from Indian wheat has an unpleasant earthy flavour, in consequence of the clay with which it is mixed; the removal of this would cause an increase in its value and lead to its more extensive use.

No. 441. *Norfolk*.—"I have 100 tons now unloading, 10 lbs. per bag of 15 stone entire waste, and besides the loss in impurities I have to pay the Great Eastern Railway 8s. per ton freight for the rubbish."

No. 444. *Great Yarmouth*.—If Indian wheats were shipped clean, would use a large quantity.

No. 450. *Great Yarmouth*.—"I was the first to introduce Indian wheat in the Eastern Counties, and used about 2,500 tons annually; but, owing to the increasing impurities, I have had to discontinue using them."

No. 455. *Northampton*.—If Indian wheat was sold in sacks, the same as Russian and American, it would be a great advantage.

No. 457. *Northampton*.—As an instance of the effect upon the price of Indian wheat of the impurities mixed with it, mentions the fact that Persian wheats in clean condition are worth 2s. per quarter more than wheat from Indian ports of equal quality, but with an admixture of impurities.

No. 465. *Newcastle-on-Tyne*.—The question of weevil should also be dealt with.

No. 466. *Alnwick*.—If Indian wheat was sent to this country clean it would at once command the attention of many millers who do not at present use it.

No. 473. *Nottingham*.—The impurities prevent the use of Indian wheats by the general trade, who cannot deal with them for want of machinery. The loss falls on the Indian cultivator, whose market is restricted.

No. 485. *Oxford*.—Believes the wheats from India will in future play a very important part in our trade. When properly cleaned, few wheats equal the Indian for colour and strength.

No. 490. *Queen's County*.—"I cannot too highly commend the adoption of this course of having information direct from the users of the wheats, and of seeking to promote the growth of colonial, specially of Indian wheats. In Ireland they are very little used, the Indian sorts, and I know of no reason save the impurities."

No. 498. *Wellington, Salop.*—Prefers Indian to Californian wheat, and it is only the dirty condition of the Indian that prevents a larger consumption.

No. 503. *Ludlow.*—"I had one lot of Indian wheat to try, and found it quite impossible to work on account of its impurities."

No. 507. *Bath.*—Have almost discontinued the use of Indian wheat, on account of the large admixture of dirt and stones.

No. 522. *Burslem.*—States that there is no doubt as to the quality of Indian wheat being second to none in the world, and that no wheat has suffered so much from the admixture of impurities.

No. 528. *Lichfield.*—The weevil in Indian wheat is even a greater drawback than the dirt. Only water will kill the insect, which remains in the interior of the grain, is ground up, and injures the colour of the flour.

No. 544. *Suffolk.*—Has used considerable quantities of Indian wheat, but has now discontinued using it on account of the impurities.

No. 545. *Lowestoff.*—"We should think the trade would be only too pleased to have some alteration that will lead to a fair business between buyer and seller."

No. 566. *Brighton.*—States that small millers will not put up expensive machinery to deal with the dirt in Indian wheat, and it is to the interest of the largest millers, who have put up machinery, to keep the wheat dirty.

No. 572. *County Tyrone.*—Cannot see why Indian wheat should not be shipped as clean as Californian or Australian, which we use, and pay a higher price for.

No. 575. *Birmingham.*—If the F. A. Q. form is abolished, thinks it would be necessary to have some standard of quality, as otherwise the quality might be let down very considerably, although the dirt clause was introduced.

No. 585. *Birmingham.*—Thinks the 2 per cent. clause should be carried out in the interest of the seller as well as the buyer, as it would increase its value. "Am pleased to receive this paper; you are doing good work for England and India, and I beg to thank you."

No. 591. *Waterford.*—Indian wheat, if free from clay, dirt, &c., would be much more used.

No. 595. *Wexford.*—Millers object to the large proportion of clay, stones, &c., contained in Indian wheat, and which can only be dealt with by expensive machinery.

No. 596. *Wexford.*—The large quantity of impurities in Indian wheat is a great drawback to its use in quantity.

No. 599. *Wicklów.*—Suggests that the wheat before being shipped should be put through proper screening and fanning machines.

No. 603. *Bray, Ireland.*—The chief impurity is not the admixture of seeds, &c., but its impregnation with animal matter, urine, &c., which, is caused, no doubt, by the cattle treading out the grain.

No. 605. *Wilts.*—English farmers in a damp season like 1888 could use large quantities of Indian wheat if clean, but as they require so much preparation, even in mills possessing the necessary machinery, the trouble and wear and tear almost prevents its use.

No. 621. *Worcester.*—Would use a much larger proportion of Indian wheats for blending with local wheat, if the former were not so wasteful by reasons of their impurities.

No. 626. *Tewkesbury.*—"My mill is a small one, and it is not worth my while to put up the necessary cleaning machinery to deal with the impure Indian wheat. I am therefore unable to use it."

No. 641. *Thornton Dale.*—"Regrets that he is unable to use more Indian wheat on account of its impurities."

No. 646. *Huddersfield.*—The Indian wheats would be more largely used if shipped free from dust, &c., and would sell for a much higher price.

No. 648. *Bingley.*—Does not find it pay to use Indian wheats unless considerably cheaper than others, owing to the elaborate cleaning process needed to rid them of impurities. The large quantity of earth some varieties contain is very difficult to remove, and causes specky flour, which retards their free use.

No. 652. *Leeds.*—"We find Indian wheats both useful and profitable, and trust you will do all you can to promote the sending of them in a clean condition."

No. 654. *Castleford.*—Fully endorses Mr. Forbes Adam's letter, and holds Indian wheats in high esteem, and looks upon them as capable of being used in this country to advantage.

No. 665. *Sheffield*.—"The dust and dirt increases in percentage as the season advances, and the rule to buy F. A. Q. is very unreasonable, as to-day I might buy a parcel of wheat, February shipment, F. A. Q., and expect it to be similar to wheat I am now receiving, but I might get it 3s. per quarter worse, although if it was equal to the average for the month I should have no remedy."

No. 670. *Birstall*.—Is in favour of a 2 per cent. form of contract, and will urge the subject upon their Chamber of Commerce.

No. 671. *Driffield*.—Would be pleased for the 2 per cent. contract to be made binding, the present F. A. Q. form is a great source of annoyance.

No. 673. *York*.—Considers the choice white Bombay one of the finest quality wheats obtainable, its worst feature is the mixture of stones, which are more difficult to extract than any other impurity.

No. 680. *Great Driffield*.—States that the condition in which Indian wheats are delivered depreciates their value from 2s. to 3s. per quarter on the average.

No. 681. *Hull*.—"We use 8,000 to 9,000 quarters annually. The admixture of dirt is only one objectionable feature in the F. A. Q. form. A much worse is that the shippers sometimes ship a bulk largely mixed with unsound and heated grain, making it utterly unfit for use. This unsound wheat is by far the greatest source of loss to us; dirt we can calculate, but treachery we cannot. We certainly think, to ensure confidence, the contract should read, *limiting the admixture of dirt, seeds, &c., and grain other than sound wheat to 2 per cent.*"

No. 685. *Elland*.—Uses about 1,000 quarters per week; if clean would use 1,500 quarters of Indian wheat per week.

No. 688. *Wetherby*.—"The Indian wheats are very good in quality, but come in such an unclean state that we do not use a fourth of what we should use if in a proper condition."

No. 691. *Doncaster*.—"If Indian wheats were shipped free from impurities it would render useless the vast and expensive plants of machinery designed, manufactured, and erected for the purpose of cleaning and purifying Indian wheats. We think this demands some consideration. The manufacture of wheat cleaning appliances is, as a matter of fact, a very important industry."

No. 695. *Hull*.—Millers in buying Indian wheat do not buy the dirt, &c., they reckon so much off for waste in buying. If they were shipped cleaner, there is no doubt they would fetch more money, as they would compare more favourably with other foreign and home wheats.

No. 698. *Keighley*.—If the various kinds of Indian wheat were sent over separately and clean, an increased quantity would be used.

No. 699. *Leeds*.—Indian wheats would be much more generally used if clean, none but the best fitted up mills can use them (as they are) to advantage.

No. 710. *Leeds*.—The immense quantity of stones in Indian wheat is a great detriment to their use, as they cannot be all got out.

No. 712. *Sheffield*.—With improved culture and shipment Indian wheat will become very popular in England, and a wholesome competitor with America.

No. 722. *Rotherham*.—Some of the Indian wheats are the best wheats on the market, and if they were sent free from dirt they would command a better price than many of the foreign.

No. 731. *Batley*.—The grit, ironstones, and heated grains are most serious objections to Indian wheats.

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## APPENDIX E.

Letter from Messrs. MARSHALL, SONS, & Co., Limited, to the Secretary of State for India.

Britannia Iron Works, Gainsborough,  
29th January 1889.

My Lord,

Knowing the interest you evince in the Indian wheat question, we take the liberty of bringing to your notice our efforts to improve the quality of Indian wheat, by endeavouring to introduce suitable and efficient machinery for the proper manipulation of the grain, and we venture to think a brief account of our experience will not be uninteresting to you.

The advantages possessed by India as a wheat growing country—as regards climate and cheap labour—induced us, five years ago, to send out a set of machinery with a competent mechanic to carry out experiments in steam thrashing, with the object of adapting our machinery to meet the requirements of the country, and to practically demonstrate to the Natives the advantages that would accrue to them by the introduction of suitable thrashing and cleaning machinery as used by all the other corn-growing countries of the world. This first machine did not fulfil all the conditions required, inasmuch that it did not chop up the straw into “bhoosa” as fodder for the cattle. But from experience gained on the spot, we were soon able to bring out a machine to efficiently thrash the Indian wheats, and at the same operation chop and bruise the straw, and this machine is a pronounced success.

We may explain to your Lordship that we did not enter upon this undertaking without anticipating many formidable drawbacks, as we know the antipathy of the Native is always at first much against any innovation of this kind, but we experienced obstacles where we least expected them. We naturally thought the merchants on the other side would only be too glad to be able to send home properly thrashed and clean wheats, and would help us in the work we had taken in hand, but, to our surprise, we only met with encouragement from comparatively a few firms. It is, no doubt, a question of £ *s. d.*, and, at present, it probably pays them better to export the wheat with impurities. In no case would a firm undertake to send home a cargo of steam thrashed wheat at their own risk, although we had staked so much in the matter. But surely it is only a question of looking a little way ahead to clearly see the benefits that would eventually result to all concerned by exporting clean wheats, as it must be apparent, if Indian wheats, as at present exported, can compete in the European markets, that by sending clean and well dressed grain India can undersell all the other corn-growing countries.

Since commencing this work we have sent out machinery every season, and for the last two years our operations have been confined to the Punjab, where we have succeeded in thoroughly satisfying the zemindars. Last season we thrashed all the wheat on the estate of one of the Sikh high priests, at Amritsar, and this, as your Lordship will be aware, at once removed any superstitious objections that may have existed. So far, we are satisfied with the progress we have made, but we have not succeeded in selling any machinery of this description to Natives, and the time when we shall see any returns for the several thousand pounds we have expended seems in the remote future.

Many Anglo-Indians have told us we have undertaken a work we shall never succeed in, but, from the knowledge we have been able to obtain of the Native character, we have confidence that it is only a question of time and energy. We know that when railways were first promoted in India it was thought the different castes would never mix in the carriages, and that it would be necessary to have a separate compartment for each caste on every train; we know how different the result has been. Our experience is that it is more a question of rupees with the Natives. Once *convince* them that there is money in an innovation of this kind, and they forthwith take it up. We have only to look at the large number of cotton mills, cotton presses, oil mills, flour mills, &c., owned and worked by Natives in various parts of India to prove this, and as the railways continue to open out tracts of valuable land, thus enabling cultivators to convey their products to the ports from places where it has hitherto been impossible owing to want of carrying facilities, the demand for machinery of various kinds must increase every year.

It has also been argued that the zemindars will not be able to afford our machinery (Rs. 6,000 to Rs. 8,000 per set, delivered on the spot), but we do not believe this; there are a very great number of the zemindars who are well able to buy such machinery, and, in cases where the farms are too small, a few ryots can amalgamate and buy a set. This system is much in vogue in several parts of Europe.

Taking into consideration the great and increasing want of steam thrashing in India, and as there can be no doubt as to its ultimate success when once introduced, one would reasonably expect a demand for such machinery at no distant date, but it has now become a question for us to consider whether it will answer our purpose to expend any more money and energy until some of the drawbacks in our path are removed. We fear we can hardly hope to succeed until the growers know they will get a higher price for clean and pure grain. The merchants in India, refusing to give better prices for clean wheats, retard our efforts, as well as injure the future wheat trade of India. We have frequently been told by zemindars, “Why should I buy your machinery, and produce perfectly clean wheat, when I should not get

“ a higher price for it, and should lose the 5 per cent. or 6 per cent. I have to allow “ to the buyer for the dirt, &c. ?” and we cannot but think there is a certain amount of reason in those remarks. We have even had cases where we have thrashed wheat for a ryot, and produced a sample beautifully clean and bright that would have surprised the merchants on Mark Lane, and he has afterwards mixed dirt with it. We mention this to show your Lordship that the fact of the merchants not being with us is a serious drawback, and our opinion is, that if the percentage of dirt and impurities were reduced to the same standard as for America, the demand for the Indian article would finally increase, and our difficulties in the introduction of machinery greatly decrease.

The Indian wheats do not at present realize anything like their intrinsic value owing to the admission of dirt, &c., and it is only the large millers who can afford to purchase the special machinery necessary for cleaning the Indian wheats who can use them at all, and many small millers, who have not facilities or means to introduce this special machinery, are debarred from employing them. We also understand even the large millers cannot use the Indian wheats in such a large proportion as they otherwise would providing they could get them clean. Further, the freight on something like 30,000 tons of useless dirt would be saved every large export season.

The growers would get a higher price for their grain, and would get their produce to market quickly after harvest, and consequently get their money earlier.

The cost of thrashing by machinery is less than by the present primitive mode.

By the introduction of machinery there would be but little risk of the crops being destroyed by fire through incendiarism or otherwise, thus obviating a source of great anxiety to cultivators in many parts of India.

We must apologise for trespassing so much upon your Lordship’s valuable time, but we should like to mention that, in addition to sending out the machines with mechanics to work them, we also sent one of our representatives to thoroughly study the whole question.

We have, &c.,  
 Marshall, Sons, & Co.,  
 H. D. MARSHALL.

The Right Hon. Viscount Cross, G.C.B.,  
 Secretary of State for India.

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# REPORT OF THE PROCEEDINGS

OF THE

## CONFERENCE

ON

# INDIAN WHEAT IMPURITIES,

HELD AT THE

India Office on the 8th May 1889.

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Presented to both Houses of Parliament by Command of Her Majesty.

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1889.

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# CONFERENCE

ON

## INDIAN WHEAT IMPURITIES,

Held at the India Office, 8th May 1889.

VISCOUNT CROSS, G.C.B., Secretary of State for India, in the Chair.

Present:

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|                                       |                                     |
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| Colonel Sir Edward R. C. Bradford, K.C.S.I. (Secretary, Political Department).   | Sir George Birdwood, K.C.I.E., C.S.I. (Special Assistant, Revenue and Statistics Department). |
| Mr. C. Lennox Peel, C.B. (Privy Council Office).                                 | Mr. J. R. Royle, C.I.E.   |
|  | Mr. B. J. Rose (Technical Assistant, Revenue and Statistics Department).                      |

*Delegates and Representatives.*

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J. Ross, Esq. (Messrs. Begbies, Ross, and Gibson).  
Messrs. Tod and Durant.  
J. Mercer, Esq. (Messrs. Mercer & Co.).  
J. E. Beerbohm, Esq. (Evening Corn Trade List).  
G. T. Turner, Esq. (Grain Trade Review).  
Kains Jackson, Esq.

London Chamber of Commerce:—  
J. Harrison Carter, Esq.

London Corn Trade Association:—  
Seth Taylor, Esq. (President).  
W. Vale-King, Esq. (Messrs. W. Vale-King & Co.).  
R. J. Duck, Esq.  
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 J. H. Chatterton, Esq. (Secretary).

H. D. Marshall, Esq. (Messrs. Marshall, Sons, & Co., Gainsborough).

PROCEEDINGS OF THE CONFERENCE  
ON  
INDIAN WHEAT IMPURITIES,

Held at the India Office, 8th May 1889.

In opening the proceedings, Viscount Cross, G.C.B. (the Chairman) said:—

Gentlemen, I am extremely obliged to you for coming here to-day upon this matter, which, I think, is of very considerable importance; and I have to thank you for the trouble you have taken in answering the request of the invitation which I took upon myself to send to you. I need hardly say that, as Secretary of State for India, I have every reason to be deeply interested in the export of Indian wheat; and I do not think that the facts of the amount of export are really known. Therefore, I had better read the figures that I have before me, which do not refer to the last year; and I purposely do not include the last year, because that happened to be a bad harvest in India, and it would rather upset the calculations. But you will remember that before the *ad valorem* duty of seven per cent. was taken off in 1873 the export of Indian wheat only amounted from British India to 17,000 tons, taking the average of the four years before the famine; and, after the duty was taken off, that 17,000 tons increased, on an average, to 137,000 tons, which was a very large increase. If you leave over the famine year, and take the four years from 1883 to 1887, you will find the average of the exports during those years amounted to not less than a million of tons. In 1887–88, when the food harvest was short, that figure dropped to 677,000 tons. Now, if the harvests are good, and the railway communication with India is still further opened and improved, as I trust it will be, we may expect the exports of Indian wheat very largely to increase, to the great benefit of the inhabitants of this country, and, I think, also to the benefit of the people of India. The value of wheat in 1887 comes to Rs. 86,259,860.

Now, when we consider that the wheat area of British India comes to about 20,000,000 of acres, and that the Native States have something like 9,000,000, or a total of 29,000,000 acres of wheat growing at the present moment, it is quite clear that this is a trade of enormous value, and it ought to be one of enormous profit.

If we compare the imports into the United Kingdom from the different countries, I find from the figures which I have before me that we have an average of the years 1885–86. From the United States there were 1,946,000 tons; from India 580,000 tons; from Russia 395,000 tons; from Canada 153,000 tons; from Germany 152,000 tons; and from Australia 134,000 tons.

I am quite aware that, owing to the state of the harvest in Russia and that of the harvest in India last year, the figures between India and Russia have been very much altered in favour of Russia and to the detriment of India. I will pass that by.

Now to the object of our meeting. It seems to me that it would be for the benefit of the consumer, and certainly of the grower, and also I should have thought of the exporter as well as the importer, that all wheat that came into this country should be as clean as it could possibly be. We find, however, that this is by no means the case, and one very notable feature in the wheat received from India, is, that the wheat which arrives in the earlier months of the year is a good deal cleaner than that which comes in the three winter months, which is very much more dirty. You have all seen those tables which I have had prepared, and you will find there that the percentage of dirt in some of the wheat that comes from India amounts to 7, 8, and 10 per cent. Of course those are special cases, but still there is an enormous amount of dirt which ought not to be there. In fact we may say that at the present moment we are going to the useless expense and the folly of paying for importing about 1,000,000 hundredweights of dirt every year from India. That is not a very business-like proceeding. I have had it calculated that that is equal to an export duty or tax of something like one and a quarter per cent. That is not a business-like proceeding, if it can be avoided.

Now, the question is, what remedy can be applied to this state of things? I dare say you have all had the advantage of seeing that selection of samples in the next room, and for that collection we are indebted to Mr. M'Dougall, who has taken a great deal of trouble in this matter. I look upon these samples as being most interesting and most instructive. Looking to the cause why the wheat should come in this state to England, I am afraid that I must say that a good deal of it is due to the form of contract under which the wheat is sold. You all know what I mean by the words f. a. q., fair average quality. That is rather an elastic term, and I cannot help thinking that if a different contract was made that we should get rid of a good deal of dirt that, unfortunately, comes into the country at the present moment. One effect of this form of contract, as I am informed, is this,—that if any one takes the trouble to export from India into this country clean wheat he does not get the value of the clean wheat because he sells it f. a. q.; and it is very difficult to make a special contract for a special cargo when the wheat is sold in a different manner.

I have seen that the Chamber of Commerce of Cardiff has made some observations upon this point which I think are worth attending to. The Cardiff Chamber of Commerce expresses the conviction that “the present fair average quality form is a direct incentive to ship impurities, and that the only solution of the difficulty is a permanent percentage standard which the quantities of extraneous matter must not exceed.” I understand that the Liverpool Chamber of Commerce has already adopted a different way of selling wheat, that there should not be over 2 per cent. of dirt, which seems to me to be a very much more sensible state of things. This is the response of the Liverpool Association, which I will quote from a letter of Mr. Forbes Adam, who is at Bombay. It says, “The response of the Liverpool Association was, I am happy to say, more satisfactory. It arrived only a few weeks ago, and is dated 12th July. It said that the members were desirous of meeting the views of the Bombay Chamber, and had decided to alter the standards of wheat on which sales were made, and that these standards would in future contain only 2 per cent. of dirt, seeds, and grain other than wheat.”

Well, I hope that we may have the advantage of some advice from the members of the trade whom I am glad to see assembled here to-day.

I would refer to the question of rice, which comes here free from all admixture except its own husks; and also to the matter of linseed, which some years ago arrived mixed with a large percentage of dirt; but a new contract form limiting all admixture to 4 per cent. was adopted, and now linseed is said to arrive in a clean condition. That is a hopeful thing, and an example which we can follow. I would also allude to the fact that from inquiries I have made I find that Italy and France refuse to import wheat which is not infinitely more clean than that which comes to this country. I do not see why we should not follow their example. I will not detain you any longer; I simply asked you here to get your advice and assistance with reference to Indian wheat imported into this country, which should not be allowed to come in its present dirty state, so that every one may get the advantage, the grower, the exporter, the importer, and the consumer.

I shall now be very glad to hear any remarks with which you gentlemen may favour us.

*Mr. W. Vale King.*—My Lord and gentlemen, we have read all your reports and papers with a great deal of interest, and the London Corn Trade Association have held many meetings to consider those reports and papers, and after a good deal of discussion they decided that the best way would be to have a sort of reply printed, which I handed in just now, and which Mr. Todd has very kindly offered to read.

*The Chairman.*—Will you be good enough to read it?

*Mr. Todd.*—It is rather a long document, and it was only put into print this morning.

*(Mr. Todd then read the following document.)\**

“At a meeting of the East Indian Wheat Committee of the London Corn Trade Association, held on the 7th May 1889, it was resolved that the following statement relating to the question of impurities in Indian wheat should be adopted as a reply to the reports and papers sent out by the India Office.

“1st. In Sir C. E. Bernard’s memorandum, and throughout the correspondence with Government, whether in India or at home, Indian wheats are described as containing

\* For copy of protest of the National Association of Millers against the above see Appendix G, page 34.



5 per cent. of *dirt*; and the expression of 5 per cent. *dirt* is so often, and so indiscriminately, used that it conveys to the mind an erroneous and altogether an unjust idea of Indian wheat.

“If we refer to the analysis by Mr. J. M'Dougall of the impurities in Indian wheats, in *no case* do we find a sample *with 5 per cent. of dirt*; and, even if we add to it the ‘dust,’ which we suppose is composed of flour dust of weevils, we fail to get a percentage of 5 per cent. of dirt and dust together, except in one or two cases of Calcutta wheats only. This admixture of dirt and dust, in the majority of cases, seldom reaches 2 per cent.

“2nd. In the same report of Sir C. Bernard's, the admixture of grain, seeds, and earth in Indian wheat is clearly shown to be the result of the mode of cultivation and threshing, and if to these we add that the weevil is an inherent defect in all Indian wheats, owing to climatic influences, we can easily account for the comparatively heavier admixture in Indian wheats as compared with that grown in countries where a higher standard of cultivation is adopted, without attributing this state of things chiefly to malpractices, and on that account invoking Government interference and the enactment of a Wheat Fraud Act, as is suggested in some of the reports and papers submitted.

“That the Natives do add foreign matter to their wheats to cheapen the cost is possible, and even probable; but between this and a systematic adulteration of their wheats there is a vast difference, and the enactment of a Wheat Fraud Act, like the defunct Cotton Fraud Act, apart from its being questionable whether, on general principles, trade should be interfered with by Government Acts, could only be suggested by want of knowledge of the conditions of trade, agriculture, and general manipulation of produce in India.

“3rd. It is suggested, in the reports and papers under consideration, that the fact of the shippers contracting for wheat with an admixture of foreign matter of 5 per cent. in Calcutta, and 4 per cent. in Bombay, and refusing to pay a higher price for cleaner wheats, prevents any improvement in that direction. This is correct as far as it goes. At the same time, seeing the way in which wheat is grown and manipulated in India, as set forth in Sir C. Bernard's report, we must come to the conclusion that shippers have accepted the above basis because they thought it was warranted by the normal condition of wheat as grown, which contained such an admixture. Merchants must be credited with knowing their business too well to suppose that they have fixed upon such a basis in a fanciful way, or in order to allow Natives to adulterate their wheat.

“It is suggested by Sir C. E. Bernard and Mr. F. Forbes Adam that the business in wheat, *i.e.*, *the buying in India*, should be conducted on a basis of 2 per cent. of admixture; and by Mr. M'Dougall that *a Syndicate should be formed* to purchase and export clean Indian wheats, which latter we take to mean about the same thing, *viz.*, the reduction of the present basis of 4 per cent. admixture in Bombay, and 5 per cent. in Calcutta, to 2 per cent.

“As the natural condition of Indian wheats is to contain about 5 per cent. of admixture of foreign matter on the Calcutta, and 4 per cent. on the Bombay side, the reduction of the basis to 2 per cent. of admixture will resolve itself either, first, into a discount of 3 per cent. and 2 per cent. respectively in the price agreed upon in taking delivery of the wheat from the Natives, and shipping it in its natural state; or, secondly, it would necessitate cleaning the wheat down to 2 per cent. either by the sellers before delivery or by the shippers before shipment, thereby enhancing the cost, through loss in weight and extra cleaning expenses, by about  $10\frac{1}{2}d.$  to 1s. per quarter on a price of about 34s.

“Notwithstanding, however, the replies of the English millers, as given in pp. 34–40 of the papers under consideration, experience has proved that buyers in this country are not prepared to pay the above premium, and when the offer is made to them of a lot of wheat at, say, 34s. f. a. q., or 34s.  $10\frac{1}{2}d.$  in a cleaner state, the sale is invariably concluded on the f. a. q. basis.

“4th. When the question was first agitated, an Indian firm prepared and showed in the market a superior sample of No. 1 Club Bombay wheat, which they offered to sell, on a guarantee of its containing 94 per cent. of soft white wheat, not more than 4 per cent. red wheat, and the admixture of foreign matter *not* to exceed 2 per cent., at a premium of 9d. per quarter, and at times they have even offered it at only 6d. above f. a. q., but, with the exception of two cargoes sold for Ireland, they have never succeeded in selling more. Other shippers can speak of similar experiences, which

would tend to prove that the impression of the trade is well founded, viz., that buyers will give the preference to clean wheats, but will pay little or no premium for them.

“Whilst on this point, we may remark that the questions put to millers were of too vague and general a character to elicit replies much to the point. We venture to think that the replies to Question No. 3 would have been rather different if after, ‘*Would you use larger quantities if free from admixture and impurities?*’ it had been added, ‘*Would you, in such a case, pay a higher price in proportion to the lower admixture, and also to cover cleaning expenses?*’

“We have it from millers themselves that they can clean wheat cheaper than shippers would charge them for doing this work, and that, *however clean the wheat may be delivered to them, they still have to clean it over again.* Besides, in buying f. a. q., they know about what they have to expect, and, whilst they are protected by arbitration from any inferiority in cases where they may be tendered parcels inferior to f. a. q., they have also the chance (not an infrequent one by any means) of getting delivery of a superior parcel without paying anything extra for it.

“It is also suggested, as a means of securing greater cleanliness in Indian wheats,—

“That wheat might be sold at home on analysis like seeds (Mr. Finucane’s Report, p. 13). That the Corn Trade Associations might be asked to fix the refraction on all sale contracts of wheat at not over 2 per cent. (Mr. Forbes Adam’s letter to His Excellency the Governor of Bombay, p. 26.)

“This question of selling wheat on a percentage rate of refraction has on various occasions occupied the attention of the Sub-Committee (Indian section) of the London Corn Trade Association, and has also been discussed by the General Committee of the London Corn Trade Association, but the principle so far has been considered impracticable.

“There is a great difference between selling seeds and wheat on analysis.

“1st. The quantity of any description of seeds sold is very considerably smaller than that of wheat.

“2nd. Seeds, especially linseed (by far the largest trade in seeds), show little variation in quality, and hence it is practicable in large parcels of linseed to have the analysis made on *one* average sample to determine the whole shipment. This, with the variations in quality, admixture, &c., &c., in wheat, almost from bag to bag, is *impossible*, and therefore it would be necessary for every small parcel of 50 tons or 100 tons to have separate average samples drawn, and have them analysed.

“3rd. In seeds, owing to the above slight variation in quality, a comparatively small sample is analysed; whilst in wheat a considerably larger sample will have to be analysed, and thus the cost will be greatly increased.

“The charge for analysing a sample of linseed is 5s., whereas on wheat we believe it has not yet been done under 2l. 2s., a very heavy charge on 50 tons or 100 tons of a poor article like wheat.

“4th. The quantity analysed being larger, it naturally will take much longer to analyse, and when in a large parcel of 2,000 to 2,500 tons of wheat something like 20 or 25 analyses will have to be made, it can easily be understood that delay must follow, rendering the final settlements protracted and unsatisfactory.

“5th. Lastly and chiefly, seeds are not liable to weevil. Wheat is, and sometimes it suffers *most severely* from this inherent defect. How would the advocates of analysis deal with the weevil flour dust? If they take it as refraction it would be very unjust to the shippers, who, although they may have cleaned down and shipped in India a parcel containing only 2 per cent. refraction, may be called upon, through the wheat being attacked by weevil during the voyage, to allow on final settlement 5 per cent., and even 6 per cent. or 7 per cent. on refraction, besides making an allowance for quality, in consequence of the excessive weeviled condition of the said parcel. If, on the other hand, weevil flour dust is admitted *not* to be an heterogeneous substance, how is it to be separated from the fine earth, sand, or other impurities?

“The selling, therefore, of wheat on the basis of percentage refraction is tedious, costly, and impracticable.

“One of the reasons of the present discussion is the desire to improve the condition of the Indian wheat trade; but whilst we believe that any sudden or violent change or Government interference would be injudicious and unadvisable under actual circumstances, we have every faith in the slower and more gradual but surer improvement which every trade works for itself; and we believe that if a comparison were made of the condition in which wheat is now shipped from Bombay and Kurrachee, and that of ten to fifteen years ago, a very satisfactory rate of improvement would be

perceptible in the cleanliness, grading, and general manipulation of present shipments of wheat.

“We cannot say the same of Calcutta, but the reason in this latter case is not far to seek, the development of railways in India having diverted from Calcutta to Bombay some of the finest qualities grown in the North-West and other up-country centres, which produce the cleanest kinds of wheat.

“Another reason put forward is the desire to develop the resources of India, and make it a more important wheat exporting country than at present. This would have been a reasonable view if it were found that owing to the unclean condition of Indian wheats India is obliged to carry a large stock at the end of the cereal year, which stock increased year by year owing to want of inquiry from the consuming markets. This, fortunately, is not the case, as all shippers receive in about March–April from Calcutta and Bombay, and in May–June from Kurrachee, information to the effect that wheat of the old crop is exhausted, thereby proving that India is able to place all the wheat she has available for export year by year.

“Seeing, therefore, that the natural condition at present of Indian wheats is to contain about 4 per cent. of admixture on the Bombay side, and 5 per cent. on the Calcutta; that, under the circumstances, it is not practicable to induce the Indian shippers to change their system of purchasing, and, instead of buying on the above natural refractions, to introduce an artificial basis of a 2 per cent. refraction; that buyers *practically* are not prepared to pay a *proportionately* higher price for cleaner wheats; that the system of selling on analysis here is altogether impracticable and unadvisable; that the conditions of the Indian wheat trade, although slowly, are gradually improving; that India ships and sells all her wheat available for export year by year, and that her development, in this branch at least, is not prevented by the present condition of her wheats; that the interference of Government in questions of contract as between seller to buyer is inadvisable; our opinion is that it is not advisable or desirable to try and force sudden and radical changes in the natural condition of a trade, but that it is preferable to let the improvement come gradually out of the trade itself, taking it for granted that merchants, sellers and buyers, shippers and consumers, &c., are too keenly alive to their interests to allow any opportunity for improvement in their trade, when such becomes advisable, to pass by.

“W. VALE KING,

“Chairman.”

*Mr. H. C. Woodward* (Liverpool Corn Trade Association).—My Lord, in addressing to you a few words on this subject, I am sorry to have to admit that there is a cleavage of opinion on the point at issue between London and Liverpool. We have listened to this memorandum, but there is a strong divergence of view on certain points of it. We ourselves, as you are evidently aware from your remarks, advocate a fixed standard for Bombay wheat more especially, and also of other kinds of wheat shipped from India, with a view of popularizing and increasing their consumption, and generally to benefit the trade. We found that in competition with the London standard, which was simply on the average of a month's shipment, our own fixed standard did not work so easily, because it is obvious that a seller would commit himself to a comparatively easy task in shipping wheat as good or clean as his competitors under the London standard, while in the other case he would have to hold himself bound to fixed conditions of cleanliness and proportions of various kinds of wheat. Therefore, our own standard did not make very much headway. Whilst we see the advantage of London making up the standard as a convenient focus for collection of samples, still we felt that as in Liverpool we handled two thirds of the Bombay wheat shipped to the United Kingdom, and four fifths of the Kurrachee, our opinion ought to have some weight, and we ourselves see no difficulty, while London makes up the standard, in fixing as a refraction for the purposes of arbitration, that 2 per cent. shall be the maximum admixture of dirt and of seed other than wheat in all shipments of Bombay wheat. We believe that if you improved the quality here, it would very soon be raised to meet the case in Bombay; that if the Native found that his shipper there contracted to sell here on a certain basis, he would have to fit his contract to the contract made here, and in a short time the shipments would materially improve. The refraction fixed for Calcutta shipments might have to be more than 2 per cent., especially for shipments made in the autumn after the monsoon; and in Kurrachee shipments a special allowance would have to be made for the admixture of barley which usually occurs in wheat shipped thence, but some definite maximum of impurities should be arranged for in all cases. We have found, more

especially with regard to Calcutta, that later in the season the wheat comes in bad condition—what is known as “country damaged,” and that ought to be met by the refusal to admit any parcels containing country damaged wheat into the London standards on any basis whatever. The basis of the standard ought to be sound wheat. It has rendered later shipments of Calcutta wheat, especially, extremely unpopular with our millers and buyers. As the Cardiff statement puts before you, “they don’t know what they are going to get.” If they buy for September or October shipment they find a much inferior article, and they are compelled to buy on the spot where they can select special parcels. We also think that the statement that buyers will not pay a better price for cleaner wheat is a somewhat exaggerated one, looking at the transactions on the spot. We quite admit for sales “to arrive,” and a good deal is on that basis, it is not so easy to sell wheat on a special sample as it cannot be conveniently passed from hand to hand—and if you have a term like “No. 1 Bombay wheat,” which is a recognized standard—it is easier to sell. But we maintain that there is a very large difference in the quality, and a very great many millers would give a preference to a clean wheat, and pay more for it. Our feeling is, that as you put it, my Lord, the f. a. q. is a very elastic term. We want to make f. a. q. a little tighter. The London Corn Trade Association in their memorandum on behalf of the shippers complain that they cannot get any higher price for parcels of clean wheat; we desire to frame such a contract as will provide that they shall at all events get rather a lower price for very dirty wheat. As the percentage of dirt will be less it will require rather more care in shipping, but in the interest of the miller, and in the long run the interests of the miller and of the merchant who handles the wheat are identical, the thing would be more satisfactory. We think that the objections to the raising of the standard on the part of the London Association are not well-founded, and we think that the raising of the standard is both feasible and practicable. We doubt whether interference of the Government might be made available in this case. The only point is, whether an Adulteration Act should be adopted on the same principle as a man is punished who sands his sugar, so a man who puts soil into his wheat should also be punished. But we doubt the wisdom of that from a commercial point of view. That is, however, more your province than ours, but we think that the raising of the standard will improve and consolidate the business.

*Mr. H. Coke* (President of the Liverpool Chamber of Commerce).—Mr. Woodward has said many things of the Liverpool trade which I would have said, and which I need not now repeat. With reference to this interesting document which has been read, it contains much that we can agree to, especially the last clause, which recommends that the trade should be allowed to settle this matter for itself. I am able from my personal experience to give the corn trade as assembled here, represented by the millers, the brokers, and importers of Liverpool, and the brokers and importers of London, a very important example of the same difficulty in the matter of cotton. Your Lordship will remember that, during the American war, Lancashire urged the Secretary of State to do everything that could possibly be done to make India supply clean cotton for the mills of Lancashire in the event of any such calamity occurring again at the American war; the first point that was brought to the notice of the Government was, that it was necessary for the Government to interfere, and insist upon the cotton being properly cleaned and properly shipped; so great pressure was brought to bear upon the Government at that time in the interest of the spinning trade of this country that your Lordship will remember a Cotton Frauds Act was passed. It gave rise to a great deal of irritation. All the reasons which may now be advanced why the Government should not interfere in the matter of adulteration of wheat were also urged at that time with regard to cotton, and eventually the Government repealed the Act. But what happened immediately after the Act was repealed? The trade took up the matter, saying, “We must protect ourselves from this fraudulent mixture, and from this shipment of dirty cotton.” The principal cause of the shipment of dirty cotton at that time was the form of the contract. The only basis upon which people would buy in this country was that of “fair.” There was a standard of “good fair,” another of “good,” very seldom did you get a standard of “fine;” but, at any rate, “fair quality” was taken as a basis for all contracts. That “fair quality” was a very inferior quality.

As I have said before, there were three grades known to the trade, but the only way in which we could make contracts for arrival business was on the basis of “fair,” so that if you shipped cotton to Liverpool a halfpenny or a penny per pound better, it

had to be delivered on the basis of "fair," and the seller got no allowance for it. The consequence was that if a merchant shipped to this country large quantities of good cotton, he could not sell it to arrive except at a great sacrifice. The better cotton had to be held, as the same class of wheat is now held, to sell on its own merits, and the trade lost the benefit of the arrival business. Wheat is now in exactly the same case. The importer who has encouraged his constituents to ship the best wheat loses the advantages of selling "to arrive," because, if he sells it, the contract must be on the "fair average quality," which is the basis of the trade. A very large quantity of our own wheat comes to Liverpool, and is sold on the spot at the price of Californian wheat, which is very nearly the best in the market; we cannot trade in wheat "to arrive" because the basis of trade is "fair average quality." This basis offers exactly the same premium on shipping poor wheat that the basis of "fair" offered on the shipment of bad cotton. What happened? The merchants, represented by an old Association called the India and China Trade Association, discussed this very point which we are discussing now, and agreed that the basis of the contract was wrong, but we could not get the trade to agree to any change in the form of contract. In fact, we were in much the same position as we are now in with the Corn Trade Association of London. However, a time came when the cotton crop turned out exceedingly bad, and sellers were "slated," by very large allowances. Exporters of cotton then came together and said, "We will have no more of this; we will bind ourselves to sell on no other terms but mutual allowances." What then happened? The speculators in the article could never fulfil their contracts, because there was no exporter to sell on the old terms, and they were obliged to come to the new form of contract. It is quite forgotten that we ever lived under such a barbarous system. The standard of arrival business, my Lord, is now raised, not to "good fair," which is the one above "fair," but to "good." The greatest quantity of cotton is now shipped on the "good" standard, and the quality is immensely improved, to the great benefit of everybody concerned in the trade. By some similar change in the form of the wheat contract we think that the same result would be obtained as regards the quality of that article. We perfectly understand that there is no intention on the part of the Government to hold over us a Wheat Fraud Act.

*The Chairman.*—No.

*Mr. Coke.*—If the gentlemen who drafted this document had had the experience which we had in cotton they would not advocate the maintenance of the present contract for wheat. Having been brought face to face in this matter, I think the corn trade of Liverpool and the corn trade of London will come together and continue to hammer at this business until it is satisfactorily settled.

*Mr. J. H. Hubback* (Liverpool Chamber of Commerce).—I have to speak to-day both as an importer of wheat into Liverpool to a large extent, and also as representing one of the largest local mills; I am a member of the Board of Directors of the North Shore Mills, and have the authority of the Board to speak for them on this matter.

We use about 1,500 tons of wheat in the week, say, 70,000 tons in the year. The quantity of Indian wheat which we use at present is from eight to ten thousand tons in an average season. There can be no doubt whatever (I have made careful inquiry from the mill manager on this point) that this quantity could easily be doubled if we were sure that in buying f. a. q. "we knew about what we have to expect." I am quoting from the London East India Wheat Committee's reply to the India Office, just read.

The point is really that, after the month of August, or at any rate September, we do *not* know what we have to expect, and I think it is shown by the tables with which you have supplied us, relative to the admixtures in Bombay wheat, that, from an average of 2 per cent. in the months of August and September, the average goes down suddenly to 4 per cent., or rather over 4 per cent. in November. It is just this uncertainty which prevents millers, both the North Shore Mill and others whose opinion I am also expressing, from buying Bombay wheat "to arrive" after August or September.

I would put it to the sellers of Bombay wheat whether they are not shutting themselves up to deal only with speculators. Speculators are, no doubt, a very desirable class of people, but they are only one set of buyers, while shippers could secure two sets—millers and speculators—if they cleaned their wheat more carefully. Further, I would say that I do not see any reason why good Bombay wheat, not only



the choice, should not fetch approximately the price of Californian wheat, taking one season with another, if properly cleaned, and free, not only from earth, but from stones, which are also a great drawback. I may say here that I think there is one omission which has not been touched upon; I believe the Liverpool form of contract is not mentioned in the London reply, nor even in the India Office reports.\* A great many of the questions dwelt upon in the London reply are settled by the Liverpool contract; for instance, the Bombay shippers know very well that when they sell on the Liverpool contract they undertake to deliver the wheat in fair merchantable condition, and that engagement is very largely made by the shippers having houses in London as well as in Liverpool. Under these circumstances the weevil dust, and so on, is a seller's consideration. When the London East India Wheat Committee speak of "lastly and chiefly" they must be aware that the question of the wheat being attacked by weevil is dealt with under the conditions of the Liverpool contract, and that those conditions are largely accepted.

I must unhesitatingly advocate 2 per cent. refraction as being a fair basis of settlement. I think that all we want to do is to raise the basis; the basis is fixed in London, and on London standard, and if the basis is raised the whole question is settled.

*The Chairman.*—I understand that Mr. Manuel (of Ralli Brothers) cannot stay very long, and I therefore now call upon him.

*Mr. M. B. Manuel.*—My Lord, I have listened to the remarks made by the gentlemen of the Corn Trade Association, and I have also listened to the gentleman from Liverpool, who remarked, amongst other things, that if those people who penned the report of the Corn Trade Association had had any knowledge of cotton they would not have penned it. I happened to have been in Bombay at that time representing the firm with the largest interest in cotton, and although I may not agree with what the Liverpool gentleman has said, I think that he has proved the case of the London Corn Trade Association, which simply says, "Our opinion is that it is not advisable, or desirable, to try and force sudden or radical changes in the natural condition of a trade, but that it is preferable to let the improvement come gradually out of the trade itself." I think that it has been proved that the improvement in the cotton trade has come out of the trade itself.

*The Chairman.*—I hope that it was never understood that we intended to press legislation, or to enforce it upon the trade. My wish is to see what can be done in the trade amongst themselves.

*Mr. Manuel.*—There is a great desire that Indian wheat should come cleaner into this country, and that is the desire of everybody. If the gentlemen who deal in wheats want cleaner wheats, they can have them. What we say is that we ought to have the question widely canvassed and faced from all points. We find that, practically, when cleaner wheats are offered, they do not get the value, and if the trade is prepared to pay, as it has done in the cotton trade, they will get it finer—if they agree to pay more for it. Ralli Brothers constantly offer fine wheats, but we can never sell them.

*Mr. Coke.*—Mr. Manuel must have misunderstood what I said. His idea as to how the matter should be settled seems to agree exactly with the course that I recommended. I thanked your Lordship for bringing the trade together, and I added that when we had discussed it fairly in all its bearings we should get it satisfactorily settled.

*Mr. John M. Dougall.*—My Lord, I am disinterested in this matter. I neither buy wheat nor sell wheat, and I simply analysed the wheat on your behalf. But I should say that the recommendations that I put at the end of the Report were simply my own ideas in the matter. I was requested by you, my Lord, to suggest any means that could be used for causing clean wheat to be brought here, and I suggested three courses,—one was the mutual arrangement between the trade that they should agree to a basis, and I suggested 2 per cent.; that there should be others who should buy clean wheat as a Syndicate, if that was desirable, or that dirty wheat should not be allowed to come here. From the analysing of these samples, I should like to call your attention to one or two points which somewhat tend to show that it is not simply a matter of what the Native arrangements are, the harvest must be taken at one

\* For copy of the Liverpool Corn Trade Association East India Shipment and Delivery Contract Form and other papers, &c., see Appendix A, pages 25-42.



time, and therefore the quality for the season would be as the harvest was, but I find that the later shipments are altogether different in quality from the earlier shipments in the matter of dirt. I find that as to the quality of wheat, if a white sample is sold with a proportion of red, the proportion of red is very largely increased in the later shipments, and in many cases it is almost doubled. The proportion in the first months up to March was 21 per cent. and in July it was 40 per cent; so that red grains have increased 19 per cent. in a very few months; but I do not find that when a red sample with white is sold, that the white berry, which is of greater value, is increased in the later shipments. I say there is no reason why this state of affairs should not be altered. The gentleman who has just sat down has said that if there is a demand for clean wheat the clean wheat will be sent. The gentlemen from Liverpool and London who are intimate with the trade know that there are two ways of dealing with wheat, one is the f. a. q., wheat to arrive, where I can quite see that there is a very great deal of difficulty in selling a special sample, because wheat bought forward is, as a rule, bought for cover, and it is desirable that the sale should be immediately completed as soon as the seller wishes to take his cover to avoid a loss. But if a wheat is put upon the stand with 1 per cent. or 2 per cent. of different percentage of admixture it makes all the difference. A miller puts his hand in the bag and criticises its value to 3*d.*, and will give the increased value without the slightest doubt upon the increased quality or cleanliness. But if it is buying the special sample on the c. i. f. terms, so that the sample has to be passed and the buyer knows that he may have to sell by wire, and that the sample would have to be sent with it, there is therefore a great difficulty. In the matter of quality, the miller knows what is just the price, and nothing more or less, and he calculates his dirt; but in the c. i. f. parcel it is necessary that he should buy whatever quality is going, and therefore he does not buy the odd sample. From the present position of matters, how can the trade improve unless some action is taken to alter the terms of the contract I do not know, because if the fair average quality principle is to prevail there never will come a time when the matter can improve. It is to the disadvantage of the importer that he should ship for one season gradually improved qualities, because he has to deliver to his sellers without an increase in price, so that unless the terms of the contract are altered, I do not see how the gradual improvement is to come.

*Mr. E. P. Maxsted* (Hull Chamber of Commerce).—My Lord, I rather lost the point of the gentleman here on the right, Mr. Manuel. “If you bring the proper quality of wheat to the market you will get your price for it.” It has been my experience, and a very long experience, that those admixtures are simply made in order that the shipper may reduce the wheat which he receives from the Natives down to f. a. q. point; that is, we have found in Egypt, and in the Black Sea, and in other places, years and years ago, that dirt was actually put in cargoes in order to have them passed as fair average quality before the Associations existed of having it defined as to what the percentage should be. Mr. Manuel has stated his side of the matter.

I remember, some 30 or 40 years ago, his principal, Mr. Ralli, coming down to Hull and advocating the question that linseed should be sold with a guaranteed admixture, and that has been adopted, and has worked exceedingly well ever since that time for the whole trade. I think that the millers who are here present, and who will tell you very much better than I can, that they would advocate cleansing the wheat on the other side, labour being very cheap, and thus save the expense of freight, as well as deterioration of the quality caused by admixture of dirt and other substances; and thus the trade would be carried on very much more smoothly than it is at present. We all know that when a parcel of wheat arrives and is fuller of dirt than the buyer expected, and especially if the market has gone against him, that there is a great deal of trouble to get it passed. If the basis of 2 per cent. were adopted it would be fair both to the buyer and to the seller. There is no necessity to have such a large difference as 4 per cent. in wheat, and I think that my friends, the millers, will bear me out in that. There is no reason, except in a very few districts in India where they thresh out on the ground, why there should be such a large percentage; and I, on behalf of Hull—and we import no small quantity of grain from India—will go heartily with the Liverpool people in trying to get the basis raised to 2 per cent.

*Mr. Seth Taylor* (President of London Corn Trade Association).—My Lord, I am quite sure that we appreciate the fact of your calling us together, not only in the interest of ourselves but also in the wish that you have to improve the growth of wheat in India. We accept your disclaimer that you are not going to dictate between the

buyer and seller, which, I think, would be beyond the scope of our Legislature, whatever may be done in other countries, but I think that the limit to which the Government might interfere with advantage would be the prevention of wilful admixture of foreign substances in wheat in India. We must discriminate between what is naturally grown and is necessarily harvested with the wheat, and the system of mixing dirt with the wheat to bring it down to a standard below that which should come here. That, of course, one feels is a practice which might very fairly be made a penal offence. But that rests with your Lordship and the Government. I am quite sure that it would be to the interest of everyone if such an enactment could be passed. The difficulty there is in fixing a limit of 2 per cent. refraction is owing not only to dirt, but to the seeds of various kinds that are grown amongst the wheat. We have not only from India but from other countries foreign elements grown in the wheat; and to have a system of cleaning wheat at the port of shipment would add more to the cost of wheat than the buyer would give on the other side. However well it might be cleaned in India there would be still a necessity to clean it again on this side, and whether there were more or less dirt, we should still have to clean it here. Of course there are a number of smaller millers who have not the necessary machinery, and they would like to have wheat which they could more easily use; and, speaking for both the London and Liverpool Associations, we shall only be too glad to consider the suggestions your Lordship has made, and to introduce any clause we feel would be practicable into our contracts which would attain the end of improving the growth of wheat in India and of giving greater satisfaction to the buyers. The admixture of red wheat with white is not such a serious matter. That of course is merely a question of different value. If we get more red the value of the wheat is diminished in proportion. You referred to the different amounts of exports from India from time to time. There is no doubt that the growth of wheat has increased very largely in India, but the amount of exports for any particular year depends upon the goodness or badness of the crops. From America we have had very little indeed this year, and you cannot tell from a particular year what the average growth may be. The gentleman from Liverpool, the President of the Chamber of Commerce, spoke of the analogy of cotton with wheat. They are analogous only to a certain extent, as the value of cotton and wheat is so very different. The question of mutual allowance which he suggested, would be too vexatious and too troublesome, as it would involve the analysis of everything that came, and would be beyond the reach of practical politics and practical business.

*Mr. Coke.*—I did not propose that.

*Mr. Seth Taylor.*—The degeneration of quality was spoken to by Mr. M'Dougall. Well, the good wheat comes first, and as you get to the bottom of the pits, and as the stocks get shorter as the season advances, the inferior qualities get sent off. There is a certain allowance for this even from the best exporting countries, and we cannot avoid it altogether.

*Mr. W. E. Willson (Birmingham).*—My Lord, I come from Birmingham, and have the honour of representing a large number of millers in the Midland counties, and I have to say that this is to us a matter of very deep interest, and the more so to millers away from the seaports, for this geographical reason,—we being in the centre of England have a very heavy rate to pay before we can get wheat from the seaports into our mills. The railway rate from London by all the railways is 13s. 10d. per ton to Birmingham, and 14s. 2d. to Wolverhampton, I speak under correction, but only perhaps to the extent of 4d. per ton. The rates from Liverpool are 11s. 3d. and 12s. 6d. respectively, the rate from Hull is 13s. 10d. or 14s. 2d. Now it needs no advocacy on my part to say that it is a positive necessity to have the purest wheat that we can lay our hands on, so that we shall not have to pay carriage which amounts to two-thirds of the average rate from Bombay to this country. 20s. may be taken as an average rate to this country, and yet for the 112 miles distance from London, and the greater part of our Indian wheat comes through London, we have to pay 13s. 10d., the same rate which is levied upon the finer description of flour from Vienna, Trieste, America, or any part of the world. We do feel it a very great hardship that we should have to pay for this percentage of dirt, when we have to pay this high rate of 13s. 10d. per ton. To some people it may seem a small matter, but every 2½ per cent. of dirt means 1d. per quarter to us in carriage only. I have heard with much pain that millers do not understand their business. I do not like to have it said that I know

so little of my business that I am not willing to give more for a clean sample than a dirty one. If gentlemen choose to confine their business transactions to buying months and months in advance, I grant that a different state of things comes in, but we as millers buy our wheat beforehand to manufacture a certain grade of flour, and we find that the wheat is at times of such an inferior quality that we cannot manufacture the flour out of it. We in the Midlands are not like Mr. Taylor, who is a merchant as well as a miller, and who can deal in Mark Lane just as easily in wheat as flour, whereas we should have to pay a commission for a sale in the market, and have to go to the market again to replace the wheat that came in unfit for the purpose for which we buy it. There is another matter alluded to in the report of the London Association, and that is with regard to the weevil. We know that it is a most noxious insect, and every one connected with the grain trade has had a great deal to do with the weevil.

But the best way is to clear us of the ravages of the weevil, as weevils are shipped in the bags of wheat. The percentage of weevil in the wheat has grown so enormously that the value of wheat has deteriorated, not  $2\frac{1}{2}$  but 5 or 10 to even 15 or 20 per cent., so much so that we cannot use wheat which has been weeviled, not only on account of the loss of flour out of it, but also on account of the condition of the wheat, for we find that the weevil has eaten the grains. It is not a shipper's question; we do not buy the wheat free on board, we buy it to arrive here. Messrs. Ralli should not complain, but do their best to clear us of the ravages of the weevil (laughter); and I say that this difficulty, with regard to the inferior quality of the later arrivals, precludes a great number of millers, most certainly in the Midland counties, from entering into contracts which they otherwise would desire to do, because no amount of compensation which they get from arbitration makes a sample of wheat which comes up unfit for their particular manufacture of equal value to them as what they bought.

*The Chairman.*—I should like to hear Mr. Appleton, who is here on behalf of the Millers' Association.

*Mr. R. H. Appleton* (Stockton-on-Tees).—My Lord, on behalf of the National Association of British and Irish Millers, I have pleasure in responding to your call. In the first instance, my Lord, you thanked the gentlemen here present for attending on an occasion of this kind, but I think we ought to thank you for calling us together on such an important subject as that of Indian wheat. Our wheat supply is a question of deep importance, not only to yourself and to the gentlemen present, but also to the nation at large. If you look for a moment at the present position of our agriculturists you will see that, year by year, they are growing less, and our wants are growing greater, and the question is how is that interregnum to be filled up. It is very natural to look to our own colonies for what we require to as great an extent as possible, and we have been looking for a great number of years to India as the most likely country to supply wheat for England. With regard to the quality of Indian wheat, having used it personally from the beginning, I can safely say it would be a great deal better if it were better cleaned. There is a very great loss to the millers in the way that it is now so filled with dirt. You must know, my Lord, that there are about 7,000 to 8,000 millers in the United Kingdom; but, owing to the foul state of the Indian wheat, I do not think there are above 700 or 800 millers who use it. It is very unsatisfactory to the smaller miller, because he cannot grind Indian wheat, and he cannot sell it, simply on account of its foul state. If the wheat was in a better condition every miller in England would then use it, which he cannot do at the present time. There is no difficulty at all in saying to the shipper, you shall not ship more than two per cent. of foul matter with the Indian wheat; if that were done it would come very much more into general use among the smaller millers, who, I believe I am correct in saying, are doing a large proportion of the business of the country. There is another question, and it is a most important one, that is, you cannot clean a great portion of Indian wheat, except through water. If you put wheat through water, you, to a certain extent, destroy part of its properties. Some wheat you may clean with screens, but others you cannot, and therefore it would be an immense advantage if in any way it could be managed so as to ship the wheat from India in a better and cleaner state. I do not wish at all to enter into controversial points about the charters and those other questions, but simply as a miller. I have to thank you most heartily for bringing this matter before the merchants and millers of England, and I do hope that beneficial results will accrue from this meeting to-day.

*Mr. Arthur Baker (Bristol).*—My Lord, I am sorry to have to stand up to dispute the reasons for not using Indian wheat which have been given by the gentleman who comes here as representing the Millers' Association of England; but, for my own part, I am bound to say I do not at all agree with all that Mr. Appleton has said. I do not wish now to enter into the controversial subjects as to the modes of cleaning Indian wheat, or as to the advantage or disadvantage of washing wheat. It is a subject on which apparently I should not agree with Mr. Appleton, but I would merely state this, that my firm are large users of Indian wheats, and, however clean the wheat of India came to this country, we should not be able to use any more of it. The use of Indian wheat, as far as England is concerned, is restricted by the want of proper provision for cleaning it, and, if the mills are properly furnished for dealing with Indian wheat, other English millers will find no more difficulty in using it than we do. There are conditions appertaining to Indian wheat which prevent its being used in some districts of England to so large an extent as in others. I refer to its quality for use in baking. It is well known that Indian wheat differs very largely in quality, and very largely in nature, and the wheats that suit the public of one part of England do not suit the public of another part of England. My own experience is, trading as I do over a great part of the South and Midland counties of England, that flour which is suitable for one portion of my trade is utterly unsuited for another portion of it, and it is this consideration, more than any other, that restricts the use of Indian wheat in my own mills and in other large mills. My Lord, I quite agree with the remarks that have been made by Mr. Seth Taylor, and I do not think that I can add anything that will give force to those remarks. But there are one or two points which have not been noticed that I would ask your Lordship's attention to for a moment. I think, my Lord, you yourself stated—it is stated in some of the papers before us—that the Indian wheats that are sold in this country are not saleable in France, and in other continental countries, by reason of their impurities. If I know anything of the corn trade, that is not the fact. My knowledge of the corn trade goes to show that Indian wheats that are easily saleable in England are just as easily saleable on the Continent.

*The Chairman.*—I do not think that I made such a remark.

*Mr. A. Baker.*—I beg your pardon if you did not, but it has been stated here to-day. I think I am right in saying that it has been stated that Italy and France did not take Indian wheats by reason of their impurities.

*Mr. John M. Dougall.*—I have made the statement that Italy, France, and Belgium are buyers of the better class of Indian wheats.

*The Chairman.*—I find that I did make the statement, and I am quite willing to give my authority.

*Mr. A. Baker.*—I think further inquiry will prove that that is not the case, that the same qualities saleable here are dealt in equally largely on the Continent. My own experience is this, in buying a cargo of Indian wheat I take care to have in my contract a stipulation for continental option because, if I wish to resell, the continental buyer is as free and eager a buyer as any we have in England. Then the depreciation in quality towards the end of the season, has been spoken of as though it appertained only to Indian wheat. Mr. Taylor pointed out, and I wish to emphasize the fact, that that deterioration goes on, not only in Indian wheat, but in wheat from every country of the world. I do not think that you can point to a single country from which we obtain wheat where the quality does not go down at the end of the season. Mr. Willson spoke of cleaning wheats at the port of shipment to prevent them being weevilled. Now those who have handled weevilled wheats, and who have had experience in storing wheats, will tell you that no cleaning at the port of shipment will get rid of the weevil. The dust, no doubt, may be lessened to a certain extent, but the question is, whether that lessening would not be produced in India at a greater cost than the chance of improvement is worth to the English buyer. However much you clean to prevent weevil, the English buyer would have to look specially to the risk of the wheat arriving in a weevilled condition, and he would not be willing to give the same price as for wheat which is not subject to weevil. I have no objection to raising the standard of Indian wheat.

As a miller I buy my wheats on their relative values as I expect them to come. I know very well that at certain times I must not give the same price for Indian wheat

as I should at other times of the year, but it is perfectly useless to make a standard for Indian wheat which is not practicable in the trade. If any one will examine the conditions of the growth of Indian wheat and the way in which it comes forward, they will find that, while a 2 per cent. refraction clause may be very suitable to the Bombay district, it may not be suitable to other districts. It is a well known fact that, in a large part of India, wheat and other grains and seeds are sown together in the same fields, with the object, as I believe, of securing to the Native either a crop of wheat or a crop of gram, or something else. He cannot make sure of his seasons, and therefore he takes care to make sure of, at any rate, one crop, and I believe that is the reason why the wheats of some districts contain so much more seed than do the wheats of other districts. As far as the dirt itself goes, I think that the analyses given by Mr. M'Dougall will show that the amount of dirt and dust in very few cases exceed what we have often found in the wheats of other countries, something like 1 to 2 per cent., and Mr. Seth Taylor has very rightly pointed out that, however much the wheat may be cleaned abroad, it will have to go through, in the hands of the millers, exactly the same process of cleaning as now; and, therefore, I think it is quite possible that, by imposing restrictions upon the trade which are not practicable, millers may find that they have to pay for their cleaner wheats more money than they are worth to them in comparison with the wheats that are now shipped. I am speaking from my own practical experience, but I know that a great many millers will not agree with me.

*Mr. John Weston* (Bristol Chamber of Commerce).—My Lord, I fear that Mr. Baker's remarks may have created a false impression of our views in the Bristol Channel. Mr. Grace and myself are deputed to represent the Bristol Chamber of Commerce, and having consulted many of the small millers in Bristol and the neighbourhood on this question, we find they differ entirely from Mr. Baker. That gentleman has gigantic flour mills fitted with the most elaborate machinery, and only represents himself. We in Bristol are thoroughly in accord with the recommendations of this interesting paper sent us from the India Office, and the Bristol Chamber considers that if by any possibility—we do not know how—Indian wheat can be imported here with only 2 per cent. of foreign admixture, it would not only largely increase its sale in our district, but considerably enhance its value.

*Mr. Charles J. Procter* (President, Liverpool Corn Trade Association).—My Lord, I have no doubt it has passed through your mind that we are embarked upon a sea of trouble. We have so many different opinions, whereas we should be united. But speaking as being in close touch with the bulk of our large northern millers, both from Liverpool and Hull, I may say that the Indian wheat trade itself is suffering very much from the present system of standards. In fact, we are liable to unexpected disasters, especially towards the end of the season. We may buy wheat to get something fair, and yet may have to receive possibly what is considerably damaged, owing to the standard being made up from actual shipments, and may have to take it without sufficient allowance. There is also the amount of dirt, and, as you would see by the various percentages in the Calcutta and Bombay wheat standards, there is a sliding scale for 2, 4, 6, and 8 per cent. backwards and forwards. What is a miller and buyer to expect? He does not know, and he buys with extreme caution. The larger millers are able to deal with this question a great deal better than the smaller millers. If we elevate the standard, we at once elevate the price of Indian wheat. It may not be observable at once, as comparisons are difficult, but with 2 per cent. refraction on Bombays, they would occasionally be on a par with Californians, and, as compared with other wheats, would at once command a higher value.

This question has arisen frequently, but unfortunately, owing to the lack of cohesion on the part of buyers and millers, it has been very difficult to treat with. Frequently we have talked the matter over in our Association at Liverpool, and tried to bring about a change in the standards with the London Association, but there has never been sufficient force to make any alteration, and I only hope that the effect of this meeting may be to so open the eyes of all that we may arrive at some satisfactory conclusion as to the making of a London standard which will practically meet all the difficulties of the case. The question of analysis, although it has been referred to as a very difficult one, may perhaps after all not prove to be the bugbear that some imagine. Analysis might prove an expensive matter, but the idea is not so much to obtain scientific accuracy as to get an approximate result, and to gradually elevate the standards.



*The Chairman.*—I will now ask Mr. Harrison Carter, of the London Chamber of Commerce, to favour us with his views.

*Mr. J. Harrison Carter\** (London Chamber of Commerce).—My Lord, I was not expecting to be called upon to speak to-day, but I shall add my few words to the discussion with very great pleasure, but with a certain amount of hesitancy. It seems to me that the discussion has turned too much perhaps on really a trade aspect, and that it would have been probably better if a patriotic view had been taken on this question. It seems to me important for our national interests that this enormous importation of wheat from one of our greatest possessions should come to this country in the best and purest state. Now, my Lord, my qualification for addressing this meeting to-day is, I believe, based on the fact that I have taken some part in introducing into this country the modern system of milling. Well, my Lord, I am astonished beyond measure at the uncompromising document put forward by the London Corn Trade Association. But, my Lord, I am glad to say that that document has been spoken to in a far less uncompromising, in fact in a very liberal, spirit by one of the Association, Mr. Seth Taylor, and therefore I do hope that the uncompromising nature of the document may not be carried to its fullest extent. Now, with regard to the system of cleaning Indian wheats to which Mr. Baker has referred, I think that Mr. Baker himself will acknowledge that it is only comparatively recently that he has been able to carry out a satisfactory method of cleaning these wheats, and that even now that system is not perfect. But, my Lord, though I have not myself constructed machines for cleaning Indian wheat, in furnishing and erecting mills, and in carrying out contracts, I have had to select those that I thought best. A short time ago I had to fit up a mill in Bombay, and I sent out the very best wheat cleaning and washing machinery that I could. But even the millers in Bombay were not satisfied with that machinery. Only quite recently I completed a large contract in Calcutta, and I was told by the millers there that they would not require wheat cleaning machinery, because they could purchase their clean wheat. Well, my Lord, only within the last few weeks I have had my first letter from the engineer in charge of the erection of that mill. He says:—"We have started the mill. We have had a very satisfactory run. We have been working eight days, ten hours a day, but the 'break' flour is not clean, it seems impossible to get it clean." My Lord, that is because they would not take the wheat cleaning machinery which I had recommended them. But I should add, so certain was I that they would find themselves in very great difficulties if they did not have this machinery, that I kept every mail writing to them and impressing upon them the fact that they must have it, and at last they sent me a telegram ordering it, and my foreman says, "We shall never get this flour cleaned till the machinery arrives." Well now, if they cannot in India—where they tell me they could procure clean wheat—if they cannot procure them there, how is it to be expected that persons in England, buying through merchants in India, can obtain them? I can speak with perhaps a greater knowledge of the millers of this kingdom even than the Corn Trade of London, because my business has taken me over the whole kingdom, and some of the largest and most extensive millers in the kingdom at the present time have, I think I may safely say, never used a cargo of Indian wheat, simply because they have found the quality unsatisfactory unless the dirt was abstracted from it, and they have found in using Indian wheat that with the most perfect machinery it is impossible up to the present time to get a perfect cleansing of that wheat. I could say much more, but I have already occupied too much of your time. I think that the London Corn Trade Association would do well if they would listen to the words spoken from Hull and Liverpool and from the millers of this country, and would try to do something to wipe out the effects of this uncompromising document.

*Mr. P. J. Nicolas.*—My Lord, may I say one word as a Calcutta shipper. We quite agree that the wheat ought to be much cleaner than it is, but this is entirely a question of price. If buyers in this country will only pay the additional cost of cleaning the wheat in India they shall have it cleaned. My firm at one time were told that if we sent clean wheat into this country we should not only get a fine price, but establish a great name, and accordingly I bought a machine here costing some 30*l.* or 40*l.*, and sent it out to Calcutta. We cleaned a small quantity there every day and shipped it when it was ready, but the result was that when this wheat was put on the stands in London it fetched very little more than the wheat that was sold

\* See also letter from this gentleman, Appendix D, page 32.



“as fair average quality.” The millers and others simply stated “We cannot afford to pay for it,” and they say so still. If you will ask Mr. Taylor or any of the other large millers, they will tell you that they must clean the wheat here, and by having it cleaned at the other side as well they are practically paying for having it cleaned twice over. The whole thing resolves itself into a question of price. If consumers here are willing to pay for the double cleaning they can have it double cleaned.

My firm will any day make a contract for wheat cleaned down to 2 per cent., if the buyers here will only pay the price of cleaning down to that percentage.

There has been some misapprehension about the linseed question. I happen to know something about linseed.

It is stated in one of the papers that your Lordship put forth that linseed has improved in cleanliness lately. Undoubtedly it is cleaner than it was 20 or 25 years ago, but the crushers here took it into their heads, as some of the Liverpool Association are doing now with wheat, that they would like to get nearly pure linseed without mutual analysis, and that they would run the chance of getting it cleaned as they did before and at the same price. The consequence has been—some of the gentlemen in the room can bear me out—that the seed has for the last two or three years come in much dirtier. We have gone away from the mutual analysis basis, and we are coming back to dirty seed again. So that it is a question of price both in wheat and in linseed. If you pay us for what we ship, you will have a good quality, but if you do not, whatever agreements we may come to otherwise will fall to the ground.

*Mr. A. R. Grace* (Bristol Chamber of Commerce).—My Lord, I can scarcely agree with the remarks of the last speaker. He has spoken about cleaning the wheats. I think what we really want is to prevent the putting of the dirt in, and let us bring the wheat clean from the Natives and ship it in its purity, it would then not require cleaning.

*Mr. Samuel Smith\** (Sheffield).—My Lord, I happen to be situated between two seas, about equi-distant with Hull on one side, and Liverpool on the other, and I should be very glad to pay something extra for the clean wheat. I find in the Report, of which you have kindly sent me a copy, in answer to a question, “Whether the millers approved of a form of contract limiting the admixture of dirt, seeds, and grain other than wheat to 2 per cent.; how many approved of it?” *There were 429*, and how many disapproved of it? I find there were *four*, and I presume the four had all got good cleaning machines. I have got the best cleaning machinery that I can find, but still I shall be very glad indeed to have the wheat coming to me ready cleaned. I have the sea 60 miles distant on one side, and 70 miles on the other, and it is a serious thing for me as it is for every one in our insular position to get wheat to our mill, and then to find that we cannot use it when we have got it there. We could not find a market for it if we got it home and it did not suit us, we should have to send it back to the ports, and to get what we could for it. I have known an instance in which a miller bought a large quantity of wheat, and under arbitration he was obliged to take it, and it ruined him. These considerations are not applicable to those who are near the ports. These gentlemen who live at the ports, and who have got good cleaning machinery, can deal with it with one cleaning, I suppose; but I am in the habit of using about 100 tons of Indian wheat per week, and I clean it all twice. I have to clean it twice, and as to the gentleman who said that if we will pay for clean wheat we shall have it, I for one should be very glad to have it, and then I shall have to clean it only once. I have to give it a separate cleansing; and we have to put some of it through water, and the water gets into the percolations that the weevils have made, and it damps the starchy part of the wheat, and sometimes renders it almost unfit for use; and it is a grief and trouble that we on this side have to endure. I could not suggest any manner in which those people abroad could manage their business better. I do not suggest that the ryots will clean it better than they do, because they have not the means. Perhaps the buyer who collects it between where it is grown and the port may have some difficulty, but is there any reason why the shippers should not have it graded, the same as they do in America? and if they can enhance its value, and turn the dirt out, and make it 5 per cent. better, I will give more than they will have to pay for the cleaning. I can hardly understand this Report where it says that people will not give more for clean wheat than unclean wheat. I always thought

\* See also letter from this gentleman, Appendix E, page 33.

that the millers were obliged to be a little 'cute if they are to live at all, and it is an extraordinary thing to me if millers will give the same price for inferior wheat that they do for clean wheat. Another advantage of cleaning the wheat would be that Mr. M'Dougall may lose his calling, we should not want any analysis. If we got wheat clean, we could not have anything better, and we should be satisfied to be saved the trouble of cleaning, and we should be able to value the wheat. I, as a user of Indian wheat, think very highly of it, and I should use more of it than I do but for the difficulties that we have, and especially, as one gentleman who spoke before said, the difficulty of getting out the stones. I do not believe that difficulty is quite overcome yet, but it is very much improved. I believe that the thing is advancing. We have been told that the Indian wheats have been improved in shipment. There has been much improvement, from what I have seen, in from ten to fifteen years. That is a favourable augury. That shows that they are capable of improving it, and it remains for them to try to do it better. I think that the buyers, to a great extent, have the question in their own hands. If we as millers were to say we will only buy clean wheat of a particular class and have no other, I think that the sellers, in their interests (and no one knows their own interests so well), would give us all that we ask for. I am satisfied that it would be better for them and for us. It cannot be of any value to them to send me 36 stones of Indian dirt to Sheffield, where we have enough of that already, and ask me to pay the price of good wheat for it.

*Mr. M'Dougall.*—Perhaps I may be allowed to reply to Mr. Smith, who said that I should lose with reference to the analysis. Well, I have no calling of that sort.

*Mr. J. H. Todd* (London Corn Trade Association).—Objection has been taken to what is called the uncompromising nature of the London Corn Trade Association reply. Well, we have looked into this matter most carefully, and we have done our best to meet the views contained in the Report which your Lordship has favoured us with, but we find insuperable difficulties in the course of the trade, and nothing dropped to-day has shown us how to get over them. I am perfectly certain, as a Bombay merchant (and I can speak not only for them but for the Calcutta merchants), that the moment any practical suggestion is made whereby our trade may be improved, and either our profits made larger or our losses smaller, no one would be more glad to receive them than we should.

*The Chairman.*—Well, gentlemen, I have heard this discussion with the greatest interest. I did not expect that you would come at once to a unanimous resolution, or that you would come to a resolution at all here. That is not the object of this meeting. The object was to have a fair and free discussion upon this very important matter, and I think you will all admit that we have had a very fair and free discussion.

(The proceedings then terminated.)

*Note.*—The report of the above proceedings has been corrected throughout by the several gentlemen who addressed the meeting on the occasion.

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## APPENDIX A.

## No. 20.—EAST INDIA SHIPMENT AND DELIVERY CONTRACT.

THE LIVERPOOL CORN TRADE ASSOCIATION, LIMITED.

Liverpool, 25th May 1889.

We have this day sold to A.B.\* on the terms of the Printed Rules of The Liverpool Corn Trade Association, Limited, and the Clearing House Regulations relating to Margins,\* about one hundred tons Number One Bombay wheat, London Standard, at 6s. 6d. per 100 lbs., say six shillings and sixpence.

To be of fair average quality at the time and place of shipment.

June and July shipment from Bombay, via Canal to Liverpool, per steamer or steamers.

To be delivered, ex quay and store, at Seller's option, in fair merchantable condition; a slight dry warmth and slight weevilling not to be objected to. Importer's bags for Seller's account.

Particulars of shipment shall be declared by the first Seller to his Buyer before the vessel named has appeared in the Bill of Entry, unless the vessel brings its own advices, in which case an extra day shall be allowed. All declarations shall be made for shipments by steamers within thirty-five days, and for shipments by sailing vessels within fifty days after the date or month of shipment named in the Contract, or if more than one month is named, then after the actual month of shipment. If the Seller shall make default of declaring within the period above named, the Buyer shall have the right of closing the Contract by invoicing the grain back to the Seller, at its market value, such market value to be settled by arbitration, and it shall also be in the discretion of the Arbitrators to award damages, if any, not exceeding 5 per cent. of such value, according to the special circumstances of the case. There shall not be more than two separate declarations on each 2,500 centals of grain. In case of re-sales, a copy of first declaration shall be accepted by Buyers if passed on in due course.

Ship damaged or sea-water damaged grain may be rejected, and the Contract, so far as regards the quantity rejected, shall be at an end.

In the event of the grain declared, or any part thereof, being prevented from arriving by perils of the seas, the Contract, so far as regards such grain, shall be at an end.

In case of prohibition of export, blockade, or hostilities preventing shipment, this Contract, or any unfulfilled part thereof, shall be at an end.

Seller to pay our brokerage of half per cent., Contract cancelled or not cancelled.

Bill of Lading to be considered proof of date of shipment in the absence of evidence to the contrary.

Any separate parcel declared in partial execution of this Contract shall be considered as if shipped under a separate Contract.

If the grain tendered, or any part thereof, is not in accordance with the Contract as regards quality and condition, the Arbitrators shall award that the grain be taken with an allowance, or be invoiced back to the Seller at the market price of the grain contracted for on the day of arbitration, in either case with or without a penalty, not exceeding 5 per cent. on such price, according to the special circumstances of the case.

If at the time of tender the standard for the month's shipment has not been made up, the Arbitrators may decide on the last previous available standard, or on such other evidence as they may think fit, whether or not the grain is to be invoiced back to the Seller, but the price at which it is to be invoiced back shall stand over until the standard for the month in which the grain was shipped has been made up, and shall then be decided by arbitration, according to the price of the day of the former arbitration. Any claim of the Buyer to an allowance from the Contract price shall also stand over, and be decided by arbitration in like manner.

Payment, as per Rule 8, allowing interest equal to three months from date of being ready for delivery.

This Contract is made between yourselves and ourselves and not by or with any person, whether disclosed or not, on whose instructions or for whose benefit the same may have been entered into.

(Signed) C.D.

## No. 20.—EAST INDIA SHIPMENT AND DELIVERY CONTRACT.

THE LIVERPOOL CORN TRADE ASSOCIATION, LIMITED.

Liverpool, 25th May 1889.

We have this day bought from C.D., on the terms of the Printed Rules of The Liverpool Corn Trade Association, Limited, and the Clearing House Regulations relating to Margins, about one hundred tons Number One Bombay wheat, London standard, at 6s. 6d. per 100 lbs., say six shillings and sixpence.

To be of fair average quality at the time and place of shipment.

June and July shipment from Bombay, via Canal to Liverpool, per steamer or steamers.

To be delivered, ex quay and store, at Seller's option, in fair merchantable condition; a slight dry warmth and slight weevilling not to be objected to. Importer's bags for Seller's account.

Particulars of shipment shall be declared by the first Seller to his Buyer before the vessel named has appeared in the Bill of Entry, unless the vessel brings its own advices, in which case an extra day shall be allowed. All declarations shall be made for shipments by steamers within thirty-five days, and for shipments by sailing vessels within fifty days after the date or month of shipment named in the Contract, or if more than one month is named, then after the actual month of shipment. If the Seller shall make default of declaring within the period above named, the Buyer shall have the right of closing the Contract by invoicing the grain back to the Seller, at its market value, such market value to be settled by arbitration, and it shall also be in the discretion of the Arbitrators to award damages, if any, not exceeding 5 per cent. of such value, according to the special circumstances of the case. There shall not be more than two separate declarations on each 2,500 centals of grain. In case of re-sales, a copy of first declaration shall be accepted by Buyers if passed on in due course.

Ship damaged or sea-water damaged grain may be rejected, and the Contract, so far as regards the quantity rejected, shall be at an end.

In the event of the grain declared, or any part thereof, being prevented from arriving by perils of the seas, the Contract, so far as regards such grain, shall be at an end.

In case of prohibition of export, blockade, or hostilities preventing shipment, this Contract, or any unfulfilled part thereof, shall be at an end.

Seller to pay C.D.'s brokerage of half per cent., Contract cancelled or not cancelled.

Bill of Lading to be considered proof of date of shipment in the absence of evidence to the contrary.

Any separate parcel declared in partial execution of this Contract shall be considered as if shipped under a separate Contract.

If the grain tendered, or any part thereof, is not in accordance with the Contract as regards quality and condition, the Arbitrators shall award that the grain be taken with an allowance, or be invoiced back to the Seller at the market price of the grain contracted for on the day of arbitration, in either case with or without a penalty, not exceeding 5 per cent. on such price, according to the special circumstances of the case.

If at the time of tender the standard for the month's shipment has not been made up, the Arbitrators may decide on the last previous available standard, or on

\* The portion of the above form filled up in writing is shown in italics.

such other evidence as they may think fit, whether or not the grain is to be invoiced back to the Seller, but the price at which it is to be invoiced back shall stand over until the standard for the month in which the grain was shipped has been made up, and shall then be decided by arbitration, according to the price of the day of the former arbitration. Any claim of the Buyer to an allowance from the Contract price shall also stand over, and be decided by arbitration in like manner.

Payment, as per Rule 8, allowing interest equal to three months from date of being ready for delivery.

This Contract is made between yourselves and ourselves and not by or with any person, whether disclosed or not, on whose instructions or for whose benefit the same may have been entered into.

(Signed) A.B.

Adopted 7th December 1887.

Entered at Stationers' Hall, and sold only at the Clearing House of the Association.

### No. 21.—EAST INDIA SHIPMENT AND DELIVERY CONTRACT.

LIVERPOOL STANDARD. MUTUAL ALLOWANCES.

THE LIVERPOOL CORN TRADE ASSOCIATION, LIMITED.

Liverpool, 188

We have this day sold to \_\_\_\_\_, on the terms of the Printed Rules of the Liverpool Corn Trade Association, Limited, and the Clearing House Regulations relating to Margins, \_\_\_\_\_

at \_\_\_\_\_ per 100 lbs.

To be equal to the Official Standard adopted by, and in force with, the Liverpool Corn Trade Association, Limited, at this date.

shipment from \_\_\_\_\_ via \_\_\_\_\_ to Liverpool, per steamer or steamers

To be delivered, ex quay and store, at Seller's option, in fair merchantable condition; a slight dry warmth and slight weevilling not to be objected to. Importer's bags for Seller's account.

Particulars of shipment shall be declared by the first Seller to his Buyer before the vessel named has appeared in the Bill of Entry, unless the vessel brings its own advices, in which case an extra day shall be allowed. All declarations shall be made for shipments by steamers within thirty-five days, and for shipments by sailing vessels within fifty days after the date or month of shipment named in the Contract, or if more than one month is named, then after the actual month of shipment. If the Seller shall make default of declaring within the period above named, the Buyer shall have the right of closing the Contract by invoicing the grain back to the Seller, at its market value, such market value to be settled by arbitration, and it shall also be in the discretion of the Arbitrators to award damages, if any, not exceeding 5 per cent. of such value, according to the special circumstances of the case. There shall not be more than two separate declarations on each 2,500 centals of Grain. In case of re-sales, a copy of first declaration shall be accepted by buyers if passed on in due course.

Ship damaged or sea-water damaged Grain may be rejected, and the Contract, so far as regards the quantity rejected, shall be at an end.

In the event of the Grain declared, or any part thereof, being prevented from arriving by perils of the seas, the Contract, so far as regards such Grain, shall be at an end.

In case of prohibition of export, blockade, or hostilities preventing shipment, this Contract, or any unfulfilled part thereof, shall be at an end.

Seller to pay \_\_\_\_\_ Brokerage of \_\_\_\_\_ per cent., Contract cancelled or not cancelled.

Bill of Lading to be considered proof of date of shipment in the absence of evidence to the contrary.

Any separate parcel declared in partial execution of this Contract shall be considered as if shipped under a separate contract.

If the Grain tendered, or any part thereof is, as regards quality and condition and admixture of dirt, inferior to the Standard, the Arbitrators shall award either that the Grain be taken with an allowance or be invoiced back to the Seller at the market price of the

Grain contracted for, on the day of arbitration, in either case with or without a penalty not exceeding 5 per cent. on such price, according to the special circumstances.

A difference in value of one penny per cental, or less, shall not entitle Buyer or Seller to any allowance, but this stipulation shall not be taken into account should the difference in value exceed one penny per cental. Should the quality of the Grain tendered be superior to the Standard by more than one penny per cental, the Seller shall be entitled to an increase of the price, such increase not in any case to exceed twopence per cental.

Payment, as per Rule 8, allowing interest equal to three months from date of being ready for delivery.

This Contract is made between yourselves and ourselves and not by or with any person, whether disclosed or not, on whose instructions or for whose benefit the same may have been entered into.

### No. 21.—EAST INDIA SHIPMENT AND DELIVERY CONTRACT.

LIVERPOOL STANDARD. MUTUAL ALLOWANCES.

THE LIVERPOOL CORN TRADE ASSOCIATION, LIMITED.

Liverpool, 188

We have this day bought from \_\_\_\_\_, on the terms of the Printed Rules of the Liverpool Corn Trade Association, Limited, and the Clearing House Regulations relating to Margins, \_\_\_\_\_

at \_\_\_\_\_ per 100 lbs.

To be equal to the Official Standard adopted by, and in force with, the Liverpool Corn Trade Association, Limited, at this date.

shipment from \_\_\_\_\_ via \_\_\_\_\_ to Liverpool, per steamer or steamers

To be delivered, ex quay and store, at Seller's option, in fair merchantable condition; a slight dry warmth, and slight weevilling not to be objected to. Importer's bags for Seller's account.

Particulars of shipment shall be declared by the first Seller to his Buyer before the vessel named has appeared in the Bill of Entry, unless the vessel brings its own advices, in which case an extra day shall be allowed. All declarations shall be made for shipments by steamers within thirty-five days, and for shipments by sailing vessels within fifty days, after the date or month of shipment named in the Contract, or if more than one month is named, then after the actual month of shipment. If the Seller shall make default of declaring within the period above named the Buyer shall have the right of closing the Contract by invoicing the grain back to the Seller, at its market value, such market value to be settled by arbitration, and it shall also be in the discretion of the Arbitrators to award damages, if any, not exceeding 5 per cent. of such value, according to the special circumstances of the case. There shall not be more than two separate declarations on each 2,500 centals of Grain. In case of re-sales, a copy of first declaration shall be accepted by Buyers if passed on in due course.

Ship damaged or sea-water damaged Grain may be rejected, and the Contract, so far as regards the quantity rejected, shall be at an end.

In the event of the Grain declared, or any part thereof, being prevented from arriving by perils of the seas, the Contract, so far as regards such Grain, shall be at an end.

In case of prohibition of export, blockade, or hostilities preventing shipment, this Contract, or any unfulfilled part thereof, shall be at an end.

Seller to pay \_\_\_\_\_ Brokerage of \_\_\_\_\_ per cent., Contract cancelled or not cancelled.

Bill of Lading to be considered proof of date of shipment in the absence of evidence to the contrary.

Any separate parcel declared in partial execution of this Contract shall be considered as if shipped under a separate Contract.

If the Grain tendered, or any part thereof is, as regards quality and condition and admixture of dirt, inferior to the Standard, the Arbitrators shall award either that the Grain be taken with an allowance, or be invoiced back to the Seller at the market price of the

Grain contracted for on the day of arbitration, in either case with or without a penalty not exceeding 5 per cent. on such price according to the special circumstances.

A difference in value of one penny per cental, or less, shall not entitle Buyer or Seller to any allowance, but this stipulation shall not be taken into account should the difference in value exceed one penny per cental. Should the quality of the Grain tendered be superior to the Standard by more than one penny per cental, the Seller shall be entitled to an increase of the price, such increase not in any case to exceed twopence per cental.

Payment, as per Rule 8, allowing interest equal to three months from date of being ready for delivery.

This Contract is made between yourselves and ourselves and not by or with any person, whether disclosed or not, on whose instructions or for whose benefit the same may have been entered into.

Adopted 7th December 1887.

Entered at Stationers' Hall, and sold only at the Clearing House of the Association.

**BYELAWS (including RULES) of the LIVERPOOL CORN TRADE ASSOCIATION, Limited, in force on and after 9th Msy 1887.**

### SECTION B.

#### *Rules relating to Contracts.*

1. Buyers of all Grain, Flour, Meal, and other articles must examine the bulk as early as possible after the purchase is effected, or in cases where the goods are sold for future delivery, as soon as possible after they are ready for delivery, and tender in writing made to the buyer. The Buyer shall be deemed to have accepted the bulk, unless he shall have delivered notice, in writing, to the Seller before 6 p.m. (Saturdays, 3.30 p.m.) of the day of sale, or day of tender, as the case may be, rejecting the bulk or stating reasons why it cannot be examined within that time. In no case, however, shall the time for examination or rejection of the bulk be extended beyond 11 a.m. of the business day next following the day of sale or tender, but this Rule shall be subject to the provision in Rule No. 14 as to heated, sour, or damaged flour.

In the case of tenders made through the Clearing House, all notices shall be handed to the Clearing House Secretary within the hours provided by the Clearing House regulations.

2. Tendere of goods sold for future delivery shall be made before 11 a.m., and if made later shall be deemed to have been made on the business day next following, but any goods tendered before 11 a.m. may be re-tendered, in whole or in part, to successive buyers at any time before three o'clock of the same day, provided such re-tender is made within fifteen minutes from the time when the person making such re-tender has received the Tender for such Goods. Any person failing to re-tender within fifteen minutes of the time aforesaid, and before three o'clock, shall be deemed to be the last Buyer. Each buyer shall mark on the Tender the time at which he received it, and, in case of re-tender, shall communicate the time to the succeeding Buyer. Tendere shall state the Contract date, and shall be accompanied by a Sampling Order, identifying the goods tendered, and shall be made to the Buyer whose name appears on the Contract, at his office; but if the Buyer has no office within a radius of 500 yards of the Corn Exchange, then the Tender may be made to the Broker at his office, or in case no Broker has been employed, then at an office in Liverpool, to be named previously by the Buyer, and to be situated within such radius.

But as regards registered Contracts, and as regards the last day of the currency of any delivery Contract, or of each month, this Rule shall be subject to the Regulations of the Clearing House for the time being in force.

When goods are sold for delivery within any given period, it shall be a sufficient compliance with the Contract if they are ready for delivery, and notice thereof be given within that period.

3. When the last day on which a Tender or Declaration should be made is a Holiday, that is to say, a Sunday, New Year's Day, Good Friday, the Saturday

before Easter Day, the Saturday before Whit Monday, the Saturday before the Bank Holiday in August, Christmas Day, Bank Holiday, or Holiday appointed in accordance with the Byelaws, the tender or declaration shall be considered as due on the business day next preceding. Any Tender or Declaration made on any such Holiday shall be deemed to have been made on the business day next following.

4. There shall not be more than four separate Declarations or Tendere for each 5,000 centals of Grain, or 2,500 centals of Flour or Meal; or more than two Declarations or Tendere for each 2,500 centals of Grain, or 1,250 centals of Flour or Meal, or any less quantity. If goods ex different ships or different warehouses be tendered on one form the tender ex each ship or warehouse shall, for the purpose of this rule, be considered a separate Tender.

5. The word "about," when used in contracts with reference to quantity, shall mean within 5 per cent. over or under the quantity stated.

6. In case a Seller for future delivery shall make default in tendering in accordance with these Rules, the Contract shall be closed on the last business day of the period specified in the Contract for Tendere, and the Seller shall pay to the Buyer the difference between the Contract price and the price of such last business day, together with such penalty, not exceeding 5 per cent. on such price, as may be decided by Arbitration.

7. Contracts for Future Delivery, and for Shipment and Delivery, shall be subject to the General Clearing House Regulations, and to the Regulations relating to Margins in force at date of each Call or Release respectively, and to the Regulations relating to Declarations in force at the date of each Declaration, and to the Regulations relating to Tendere in force at date of each Tender.

8. All payments for Goods sold for future delivery shall be made within three business days from the date of the Tender, by cash or by deposit made in accordance with the Clearing House Regulations, in exchange for a delivery order.

9. If, before the maturity of any Contract, either party shall suspend payment, or become bankrupt or insolvent, or be declared a defaulter by the Clearing House Committee, the Contract shall forthwith be closed either at the market price then current for similar Goods for delivery at the time named in the Contract, or, at the option of the other party, at a price to be ascertained by re-purchase or re-sale before the expiration of the following business day, and the difference between the contract price and the closing price shall be the measure of damages payable under such Contract. This rule is subject to any exceptions made by the Clearing House Regulations relating to Periodical Settlements.

10. The Seller's responsibility shall cease on delivery into carts or other conveyances from the ship, quay, or warehouse. When goods are sold "ex ship," or "ex quay," the Buyer shall take delivery at the ship or quay in carts or other conveyances provided by him, and in case he shall fail to do so within twenty-four hours after notice of the Seller's readiness to deliver, the Buyers shall bear all fines, demurrage, watching, or other expenses which may be incurred, and after a further period of forty-eight hours the Seller shall be at liberty to land, weigh over on the quay, or warehouse the Goods at the Buyer's expense. The Buyer shall not be required to take delivery of more than 2,000 centals of Grain, Flour, or Meal per day. In case of sales "ex ship," any goods landed in excess of the above-named quantities shall be deemed to have been discharged at the Seller's risk and expense, and the Buyer may require the excess to be weighed and delivered in the same manner as if the sale had been made "ex quay." If required, the Buyer shall provide and send to the place of delivery the requisite number of sacks. All Grain imported in bags shall be skipped at Seller's expense into bulk, either in ship's hold or on the quay, before delivery into Buyer's sacks. The Buyer may require each sack to be weighed singly.

In case goods sold for future delivery shall be tendered in warehouse, the Buyer shall take delivery within twenty-four hours after the tender is made, and in case he shall fail to do so the Seller shall be at liberty, after a further period of forty-eight hours, to weigh over the goods, and, in case of Flour, at the expense of the Buyer, to stow back; and the Buyer shall be responsible for all rent, fire insurance, and

Separate Declaration or Tender.

Meaning of "about."

Default in Tendering.

Clearing House Regulations.

Payment.

Insolvency of Seller or Buyer.

Delivery.

Examination, Acceptance, and Rejection of Bulk.

Tenders.

Holidays.



other charges and expenses which may thereafter be incurred.

Rent.

11. Except as provided in Rule 10, rent on all Grain, Flour, and Meal in warehouse or other store shall be borne by the Seller for fourteen clear days from the day of sale, unless the delivery shall in the meantime have taken place, and after the expiration of that time the Seller shall be at liberty to weigh over the Goods, and, until delivery, to charge the Buyer with rent.

Risk of Fire.

12. Risk of fire shall be upon the Seller on such part of the goods sold as shall remain undelivered, whether paid for or not.

Goods shall, for the purpose of this Rule only, be considered as delivered, and at the Buyer's risk as regards fire:

(a.) When they shall have been transferred in the books of a warehouse keeper under a transfer order directing the warehouse keeper to transfer them into the name of the Buyer.

(b.) At 12 o'clock noon of the day next following that on which such a transfer order shall have been handed to the buyer.

A delivery order directing the warehouse keeper to deliver the goods to the Buyer shall not, for the purposes of this Rule, be considered a transfer order.

The mere act of weighing over shall not constitute a delivery, nor shall a delivery of part be considered a delivery of the whole. The Seller may, after the expiration of fourteen clear days from the day of sale, charge the Buyer with cost of fire insurance until delivery be made.

Risk of Condition.

13. Risk of condition of Grain in warehouse shall be upon the Buyer, but so long as the goods shall be under control of the Seller the Buyer may, as often as he may think proper, require the Seller to have the Grain turned at the Buyer's expense; and for all rent, fire insurance, portage, and other expenses and charges which the Seller shall be entitled to, under this or any of the preceding Rules, he shall be entitled to a lien on the goods.

Rejection and Weighing of Flour.

14. Seven running days from day of sale shall be allowed to Buyers of Flour, during which period they may reject Heated, Sour, and Damaged Flour; and after the eighth day until delivery, or until the goods are weighed over, whichever event shall first happen, but no longer, externally Damaged Flour only may be rejected.

Each barrel of Flour from Canada and all American ports shall be considered to weigh 1 cwt. 3 qrs. 20 lbs. gross, and allowance shall be made for any deficiency from this weight. Sack Flour shall be weighed gross, and be invoiced accordingly.

Time for Claims.

15. When Buyers of Californian, Oregon, Chilian, Australian, and New Zealand cargoes or parcels of Grain, Flour, or Meal require arbitration, they shall make their claim and nominate their Arbitrators within seven clear days after final discharge of the cargoes or parcels.

When Buyers of East Indian Grain on London Standards have claimed Arbitration, they shall within 21 days after the making up of the relative Standards has been advertised, nominate their Arbitrator, and notify the Sellers that they intend to proceed with the Arbitration, otherwise their claim for Arbitration shall be deemed to have been withdrawn.

Default on Contract.

16. In default of fulfilment of Contract, either party shall, except in cases provided for by Rule 6, have the right of re-sale or re-purchase, as the case may be, either publicly or privately, and the defaulter shall make good the loss, if any, by such re-purchase or re-sale on demand.

Arbitration.

17. All disputes arising out of transactions connected with the Trade shall be referred to two Arbitrators, one to be chosen by each party in difference, the said Arbitrators having power to call in a third, in case they shall deem it necessary. In the event, however, of one of the parties appointing an Arbitrator, and the other refusing, or for three days after notice in writing of the appointment neglecting to do so (such notice to be delivered personally, or left at the usual place of business of such other party), or in case the Arbitrators appointed by the parties shall not within seven days after their appointment agree to an award, or appoint a third Arbitrator, or, after the appointment of such third Arbitrator, in case of the death, refusal to act, or incapacity of any one or more

of such three Arbitrators, then, upon application of either of the disputing parties, the question in dispute shall stand referred to two Arbitrators to be nominated by the President for the time being of the Association, or by the Vice-President in case of the absence of the President, his illness, or interest in the matter in dispute; and in case of the absence of the Vice-President, his illness, or interest in the matter in dispute, then the Directors, on the application of either of the disputing parties, shall appoint two Arbitrators; and in case the two Arbitrators appointed, whether by the President, the Vice-President, or the Directors, shall not within seven days after their appointment agree to an award, or choose a third Arbitrator, then the Directors shall appoint a third Arbitrator, and shall, in the case of the death, refusal to act, or incapacity of any such three Arbitrators, from time to time substitute a new Arbitrator or Arbitrators in the place of the Arbitrator or Arbitrators so dying, refusing, or incapacitated.

The Arbitrators appointed shall in all cases be members of the Association, and no person having any interest in the matter in dispute shall be competent to act as an Arbitrator.

The award of any two Arbitrators in writing signed by them (subject only to the right of appeal herein-after mentioned) shall be conclusive and binding upon all disputing parties, both with respect to the matter in dispute, and all expenses of the reference and award. Every award shall be written on a form to be settled by the Directors and supplied by the Secretary of the Association at a charge (to be fixed by the Directors) not exceeding 10s., which charge shall be paid by such one of the parties to the reference as the Arbitrators may determine, and the sums received by the Secretary for such forms shall be applied in payment of the expenses of the Association.

No Arbitrator shall be entitled to demand a higher fee than 3*l.* 3*s.*, nor shall such fee be less than 1*l.* 1*s.* for every requisite sitting.

In case either party shall be dissatisfied with the award, a right of appeal shall lie to the Directors, provided it be claimed not later than Twelve o'clock on the second day after that on which the objecting party shall have notice of the award (Sundays and Holidays, as defined in Rule III., not to be counted), and provided also the Appellant (if a Member of the Association) do pay to the Association as a fee for the investigation the sums following, viz.:—If the parcel or parcels in respect of which the appeal is brought shall exceed 5,000 centals, the sum of 10*l.*; if the parcel or parcels in respect of which the appeal is brought shall not exceed 5,000 centals, the sum of 5*l.*; or provided also the Appellant (if not a Member of the Association) do pay to the Association as a fee for the investigation the sums following, viz.:—If the parcel or parcels in respect of which the appeal is brought shall exceed 5,000 centals, the sum of 15*l.*; if the parcel or parcels in respect of which the appeal is brought shall not exceed 5,000 centals, the sum of 7*l.* 10*s.* The Directors shall have power to award by whom the fee for investigation shall be borne. An award, signed by the Chairman of the meeting which shall hear such appeal, and countersigned by the Secretary or his substitute, shall be deemed to be the award of the Directors, and shall in all cases be final.

No Director having any interest in the matter in dispute shall vote on the question of the appointment of arbitrators, or in case of an appeal, sit or vote on the hearing of such appeal; nor shall the arbitrators, whose decision is appealed against, vote on the hearing of the appeal.

Neither party shall bring any action against the other of them in respect of any such dispute except for the amount so settled by arbitration, and it is expressly agreed that the award shall be a condition precedent to the right of either party to sue the other in respect of the matter in dispute.

For the purpose of enforcing any award, by attachment or otherwise, this rule and any contract referring thereto, may be made a rule of any Divisions of Her Majesty's High Court of Justice in England or in Ireland, or an order of the Court of Session in Scotland.

(Amended Clause, adopted 23rd May 1888.)

THE LIVERPOOL CORN TRADE ASSOCIATION,  
LIMITED, CLEARING HOUSE REGULATIONS, in  
force on and after 1st October 1888.

## SECTION A.

*General Regulations.*

Constitution of Clearing House Committee. 1. The Clearing House Committee, herein-after called "the Committee," shall consist of the President, Vice-President, and seven other Members of the Association, to be elected annually by the Directors. Directors shall be eligible. Casual vacancies shall be filled up by the Directors as they occur. The Committee shall elect their own Chairman, and two Members shall form a quorum.

Duties and Powers. 2. The duties of the Committee shall be to make all necessary arrangements and regulations for periodical settlements, declarations, tenders, clearances, payments, deposits, and interest or discount to be paid or allowed thereupon, &c., in connexion with the future delivery business.

Settlement of Disputes. 3. All disputes arising out of the settling or clearing of Contracts, or out of any matter connected with the business of the Clearing House, shall be settled by the Committee, and their decision, signed by the Chairman or acting Chairman, shall be binding on all parties, subject to the right of appeal to the Directors in manner provided by the printed Rules of the Association.\*

When the Committee consider it advisable, a fee shall be charged by them for deciding cases of dispute brought before them.

Special Cases. 4. The Committee shall have power to deal with and regulate all cases not provided for by the existing regulations, and arising out of any clearance or settlement, but any party dissatisfied with the mode in which the Committee have dealt, or propose to deal with any such case, may appeal to the Directors, who shall then deal with and regulate the case.

Imposition of Fines. 5. The Committee shall have power to impose fines for breach of regulations, neglect of attention to notices, or carelessness in the making up of cash statements or other documents, when delay, loss, or inconvenience has, in their opinion, been thereby occasioned. A charge may be also made for each time a messenger is sent to obtain corrections of statements, &c., or for sending out corrections of same.

Secretary. 6. The Secretary of the Association shall be *ex officio* the Secretary of the Clearing House.

Secretary to act for parties to Contracts. 7. The Secretary shall have power to act for, and shall be deemed the agent of each party to a Contract in receiving and passing on declarations, tenders, notices, money, and delivery orders, but this shall not affect the liability of the parties to each other on their Contracts.

Official receipts binding. 8. An official receipt shall be a valid discharge for payments made through the Clearing House, and shall be accepted as such by the parties to the Contract.

Bank. 9. All moneys which are to be retained by the Clearing House shall be paid into a Bank to be nominated by the Directors.

Indemnity. 10. The Committee shall not be responsible for the acts, receipts, neglects, or defaults of any officer of the Clearing House, or of the Association, or of any Banker, or of any person with whom or into whose hands any moneys may, in connexion with the clearance or adjustment, be deposited, or come, nor for any loss whatsoever which may happen to any person in connexion with any clearance or settlement.

Forms. 11. Only the form of Calls, Declarations, Tenders, Notices, &c., sanctioned by the Committee shall be used, and all parties shall carry out the instructions printed thereon.

Office for notices. 12. Any party to a Contract, Declaration, or Tender having no office within a radius of 500 yards of the Corn Exchange, and having no Broker or Agent authorised to represent him whose office is within such radius,† shall name to the Secretary, as soon as possible, an office within such radius for the reception of all notices and statements (Default Notices excepted) relating to such Contract, Declaration, or Tender.

13. Every party to a Contract, Declaration, or Tender shall furnish the Secretary with such information in regard thereto as may be required for the proper conduct of the business of the Clearing House.

14. The Clearing House, to which all necessary communications can be sent, shall be open on all business days from ten until five o'clock, except on Saturdays, when it shall close at one o'clock, or so soon thereafter as all Tenders shall have ceased to circulate. Hours of business.

15. In all places in these Regulations where the word Secretary occurs, it shall be read as Secretary or Acting Secretary, and all Sellers and Buyers may be represented by their Agents. Meaning of word Secretary.

16. The Committee shall have power from time to time to rescind, alter, or add to the Clearing House Regulations, whether general or relating to Margins, Declarations, or Tenders, or to any of the matters mentioned in Clause 2, but no such rescission, alteration, or addition shall have any force or effect until confirmed by a majority of a meeting of the Directors specially summoned to consider the same. Power to vary and add to Regulations.

## SECTION B.

*Regulations relating to Margins.*

## PART I.—GENERAL.

1. Each party to a Contract shall have the right to call an original margin at a rate not exceeding 50l. on each 5,000 centals of Wheat, or 25l. on each 5,000 centals of Corn, upon the deposit by the Caller of an amount equal to that called, provided such call be made before 11 o'clock on the next business day after sale; and a further margin may be called from time to time to the extent of any difference between the Contract price and the market value. Original Margins.

2. When no original margin has been deposited, calls for margins may be made from time to time, to the extent of one penny per cental more than the difference between the Contract price and the market value at the time the call is made. No original Margin.

3. For the purpose of calling margins, the quotations of the Committee shall be conclusive as to the market value until 4 p.m. on the next business day, or until any earlier meeting of the Committee at which any quotations shall be fixed. Market value.

4. All margins shall be deposited to the credit of the Clearing House with such Bank or Banks as may be determined by the Directors, and the Deposit Receipt shall be registered at the Clearing House during the business day following that on which the call is made. Calls made after 5 p.m., or on Saturday after 1 p.m., shall be deemed to have been made on the following business day. Time allowed.

5. Should either party to a Contract fail to deposit in accordance with this Section, the other party shall have the right to close the Contract forthwith, either at the market price then current for similar goods, or at a price to be ascertained by re-purchase or re-sale before the expiration of the following business day, and the difference between the Contract price and the closing price shall be the measure of damages payable under the Contract. Failure to Deposit.

6. No party shall be entitled to interest on any deposit made under this Section. Interest.

7. Unless otherwise stipulated, either party to a Contract shall have the right, at any time during its currency, to register it at the Clearing House. Registration.

*Unregistered Contracts.*

## PART II.—APPLICABLE ONLY UNTIL REGISTRATION OF THE CONTRACT.

8. Deposits shall be applicable as security for all Contracts made subject to the Regulations of this Section between the same parties, and current while the Deposit remains. Security.

9. Deposits shall be returned by the Clearing House, as instructed by both parties to the Contract. Return of Deposits.

\* See Rule 17.

† See Rule 2.



In case of dispute as to the amount due to each, the matter shall be referred to arbitration as provided by the Rules of the Association,\* and the Clearing House shall return the deposits in accordance with the award of the Arbitrators or the Directors as the case may be.

If either party shall suspend payment, or become bankrupt or insolvent, or be declared a defaulter by the Committee, the Committee shall have discretionary power to pay to the other party so much of the deposits as in their opinion he is entitled to.

The Association or the Committee shall under no circumstances be liable for any over payment made under this Clause, and the remedy in respect of any such over payment shall be solely against the party to whom such payment has been made.

10. The Secretary shall, as soon as conveniently may be after the Deposit Receipt is handed to him, notify the party for whose security the deposit is made.

11. Each party to the deposits shall, as the deposits are withdrawn or transferred, pay to the Clearing House such fees as may from time to time be fixed by the Directors.

### Registered Contracts.

#### PART III.—APPLICABLE TO REGISTERED CONTRACTS ONLY.

12. For the purposes of registration and the calculation of Margins:—

(a.) Each 5,000 centals of grain, or 2,500 centals of Flour or Meal, shall be considered as a separate contract.

(b.) Margins shall be calculated on quantities of 1,120, 2,240, 3,360, and 4,480 centals, at the rate of 18 $\frac{1}{2}$  per 4,480 centals for every penny of difference in the price, and farthings in proportion, and on other quantities at the rate of 2 $\frac{1}{2}$  per 500 centals for every penny of difference in the price, and farthings in proportion. Margins on quantities which are not multiples of 500 centals, other than those named above, shall be calculated on the basis of the multiple of 500 centals next above such quantity.

(c.) In the calculation of margins, no deduction from the price, or allowance of any kind, and no fraction of one penny which is not a farthing or a multiple of a farthing, shall be taken into account, but the exact price shall be stated in registering the Contract.

13. The difference between the contract price and the calling price shall, subject to Clause 14, be the amount to be deposited in the Clearing House on account of the Contract.

14. Every party who has bought and sold the same goods, being a Member of the Association, or being a firm or incorporated Company entitled to the services of the Association under Clause 2 of Section A of the Byelaws, may instruct the Secretary to arrange the Contracts in a String, and such party shall appear as an intermediate, and the difference between the buying and the selling prices shall be the amount to be paid by such party to the Clearing House, or to be retained by the Clearing House on account of his Contracts, as the case may be, and no further action need be taken at future adjustments in regard to such Contracts unless the String shall be broken by such party in the manner provided for in Clause 20, or his Seller or Buyer should fail to deposit.

Any other party may be registered on a String, either as intermediate or otherwise, on such conditions as the Committee may from time to time prescribe.

15. Notwithstanding the provisions of the printed Rules of the Association,† the suspension of payment, bankruptcy, or insolvency of an intermediate party on a String, or his being declared a defaulter by the Committee, shall not enable his Buyer or Seller to close the Contract, provided such intermediate party has paid any difference payable by him on such Contract, but if the Committee are satisfied that the Seller to or Buyer from such party has suffered loss by the Contract not being closed, any difference due to such party shall be applied in or towards satisfaction of such loss, the amount of which shall be

fixed, for the purposes of this Clause only, by the Committee.

16. Original margins deposited by intermediate parties shall be released on the deposit of a similar margin by a previous Seller or subsequent Buyer, as the case may be.

17. Intermediate parties, as well as first Sellers and last Buyers, may call for an adjustment.

18. Each party to a Contract shall pay, in Clearing House stamps, such fees as may from time to time be fixed by the Directors.

19. The Secretary shall communicate to all parties the registered number of their Contracts, and all Contracts in a String shall have a String number in common. These numbers must be marked on all communications relating to the Contracts, and, when the Declaration or Tender is made, must be marked by the first Seller on his Docket.

20. The Committee shall have power to allow an intermediate party to break or alter the course of a String on his making deposits on the basis of the adjustment immediately preceding, or on the basis of the quotations of the Committee for the time being in force, in accordance with Clause 13 or Clause 14, as the case may be.

21. In the event of a Tender being made in part fulfilment of a Contract, the Deposits shall be apportioned in an approximate ratio of the fulfilled and the unfulfilled portions of the Contract.

22. Should any party to a Contract fail to deposit any amount due by him under these Regulations, the Secretary shall report the matter to the Committee, and shall notify such party in writing that he has failed to make such payment, and if the payment be not made within twenty-four hours after such notice (Sundays and holidays as defined in the printed Rules of the Association\* not to be counted), the Committee shall have power to declare him a Defaulter, and to post his name as such in the Clearing House and in the Room.

In case of non-payment by a Seller, the Secretary shall notify the following Seller, who shall thereupon be considered the first Seller, and shall make his deposit, if any, accordingly.

In case of non-payment by a Buyer, the Secretary shall notify the preceding Buyer, who shall thereupon be considered the last Buyer, and shall make his deposit, if any, accordingly.

23. Where the terms of Contracts are identical, except as to price, all arbitrations shall be held in accordance with the printed Rules of the Association† as between first Seller and last Buyer, or between any intermediate party calling for adjustment and the first Seller or last Buyer, as the case may be, as though they were contracting parties, and the award made in pursuance thereof, subject to the right of appeal as provided by the printed Rules of the Association,† shall be binding on all intermediate parties. Should the terms of Contract not be identical, such arbitration shall in like manner be held as between the first Seller and last Buyer whose Contracts are identical.

24. Calls, Notices, Deposits, Payments, Releases, and Adjustments made between the first Seller and the last Buyer shall operate as Calls, Notices, Deposits, Payments, and Releases between all intermediate parties.

25. All amounts deposited under Part III. of this Section shall (subject to Clause 13) be retained by the Clearing House as security for the relative Contracts, or, in case of a String, for all the Contracts on that String, until such Contracts have been fulfilled or closed, and the amounts shall then be paid over or credited to the parties entitled to receive the same.

### SECTION C.

#### Regulations relating to Declarations and Tenders.

1. No Declaration or Tender shall be for a greater quantity than 5,000 centals of Grain, or 2,500 centals of Flour or Meal. Should any Seller desire to declare or tender at one time more than the above-named quantities he must do so on separate Forms or Dockets. If the separate Tenders remain with separate last Buyers,

Release Original Margins.

Intermediates may call.

Fees.

Registered Numbers.

Breaking the String.

Tenders in part.

Default.

Arbitration between first Seller and last Buyer.

Deposits.

Declarations and Tenders.

\* See Rule 17.

† See Rule 9.

\* See Rule 3.

† See Rule 17.

Notification.

Fees.

Method of Calculation.

Differences. First Sellers and Last Buyers.

Differences. Intermediate Parties.

Non-Members.

Exception to Rule 9.

the Tenders in the hands of each last Buyer shall be considered as made under a separate Contract, so far as regards the quantity deliverable per day under the printed Rules of the Association.\*

2. Declarations against registered Contracts shall be handed by the first Seller on the String to the Secretary to be registered and signed over to the last Buyer, and shall be delivered to the last Buyer within half an hour after being signed over, and on being so delivered the Declaration shall, subject to withdrawal as hereinafter provided, be binding on all intermediate parties. The Committee shall have power to allow any party to the Declaration to withdraw it at any time before the expiration of the period allowed by the Contract for Declarations, on his breaking the String and making necessary deposits, in accordance with Clause 20 of Section B.

Declarations against unregistered Contracts may be made through the Clearing House by the first Seller registering the Declaration before delivering it to his Buyer. Such Declarations may be passed on to successive Buyers in accordance with the Contract. The last Buyer shall deposit the Declaration Form or Docket at the Clearing House on the expiration of the period allowed by the Contract for Declarations.

3. Formal Tenders, made with the consent of all the parties concerned, may pass through the Clearing House without a Sampling Order attached.

4. The party originating a Tender shall register it at the Clearing House before delivering it to his Buyer. After being registered it shall be passed on in accordance with the provisions of the printed Rules of the Association,† but if the Contract or Declaration against which it is made be registered, the Seller‡ shall hand the Tender to the Secretary, to be signed over to the last Buyer on the String or Declaration, and shall deliver it to such last Buyer within half an hour after it has been signed over, and on being so delivered the Tender shall be binding on all intermediate parties. The Secretary shall, as soon as conveniently may be, notify the intermediate parties that the Tender has been made, specifying all necessary particulars.

5. If a Buyer neglect to name an office for the receipt of Declarations, or of Tenders, as required by the printed Rules of the Association† or of notices under Clause 11 of this Section, the Seller, when he makes a Tender, shall be entitled to sign the Docket on behalf of the Buyer. After signing the Docket, the Seller shall deposit it at the Clearing House, and shall be deemed the Agent of the Buyer for the receipt of notices and statements issued by the Clearing House (Default Notices excepted), until the Buyer shall have named an office for the receipt of such notices under Clause 12 of Section A, and notices under Clause 11 of this Section shall be considered as delivered if deposited at the Clearing House.

6. If the receiver of a Tender wishes to divide it into two or more parts,† he must fill up a Sub-Tender Form for each part passed on, and register the Dockets at a Clearing House within fifteen minutes after receiving the Original Tender, and must deliver them to his Buyer or Buyers immediately after registration.

The Original Tender and the Divisions shall in all respects be dealt with as separate and distinct Dockets, except that when the Sub-Tenders are cleared at the same time as the Original Tender it shall not be necessary for the Divider to pay the amounts for which his Buyers are liable, and that in all cases of Divided Tenders it shall be incumbent on the first Seller on the Original Docket to give a separate delivery order for each division or sub-division of his Tender; but the Divider shall procure the necessary certificates of quantities delivered and other customary statements.

7. When the last Buyer on a Docket wishes to re-tender the same goods in whole or in part under a new Docket before the Original Docket is cleared, he shall use the Continued Tender Form, and if the Original Docket and the Continuation Docket be cleared at the same time it shall not be necessary for him to pay the amount for which his Buyer is liable; but he shall procure the necessary certificates of quantities delivered and other customary statements. In other respects the Continuation Docket shall be treated as an Original Docket.

8. On the last day of each month the only place for the delivery of Tenders against Delivery, or Shipment and Delivery Contracts shall be the Clearing House, and it shall be obligatory on all parties interested in such Contracts to be there represented from 11 a.m. until all their Contracts have been fulfilled, or until all Tenders have ceased to circulate. Original Tenders, having been previously registered, must be delivered to the first Buyer, or to the Secretary,\* as the case may be, at or before 11 a.m., and no Tender shall be retained by any Buyer for more than five minutes. At the end of the Clearing, if any intermediate Buyers shall satisfy the Secretary that they have failed to fulfil their Contracts owing to the default of their Sellers, on application being made not later than fifteen minutes after all Tenders have ceased to circulate, the applicants shall be supplied with special forms of Tender, which they shall pass on to their Buyers, by delivery at the office of the Buyers or their Brokers, or by delivery to the Secretary, as the case may be, not later than half an hour after the circulation of all duly originated Tenders has ceased, and such Special Tenders may then be passed on to successive Buyers, by delivery at the office of the Buyers or their Brokers, or by delivery to the Secretary, as the case may be, until 3 o'clock, or such later time as the Secretary may, in case of need, fix, no Buyer being allowed to retain the same for more than fifteen minutes. In case of a Ring, Formal Tenders shall pass.

This clause applies also to the last day of the currency of any Delivery Contract.

9. All parties to a Tender shall pay, in Clearing House stamps, such fees as may from time to time be fixed by the Directors.

10. If the goods tendered be rejected, the first Seller shall pay to the Clearing House the equivalent of one Tender Fee for each Party to the Tender, not exceeding in all the equivalent of five Fees, and all Parties who have paid their Tender Fees by Clearing House Stamps affixed to the Docket shall have the Fees returned to them provided they apply for the same during the hours fixed by the Committee, and within one week after receipt of notice of rejection, and all Parties whose Tender Fees are included in a Registration or Declaration Fee shall be entitled to pass a re-Tender without Fee.

11. All notices of rejection of goods tendered, and all notices by the last Buyer claiming arbitration on goods tendered, shall be handed, before 11 a.m. on the business day next following the day of tender, to the Secretary for the purpose of being signed over by him. The first Seller shall be deemed to have accepted the rejection unless he shall, before 3 p.m. on the business day next following the day of tender (or, if such business day be a Saturday, then before 1 p.m.), have handed to the Secretary, for the purpose of being signed over by him, a notice claiming arbitration and naming his Arbitrator; and should the last Buyer fail to hand to the Secretary, for the purpose of being signed over by him, a notice naming his Arbitrator before 11 a.m. on the second business day following the day of tender, the matter shall stand referred, upon application by either party, to Arbitrators to be forthwith appointed in the manner provided by the printed Rules of the Association† in case of failure by a party to appoint an Arbitrator.

All notices given under this clause must, within half an hour after being signed over by the Secretary, be delivered to the proper party, and on so being delivered shall be binding on all intermediate parties.

12. Where the terms of Contracts are identical, except as to price, all arbitrations shall be held in accordance with the printed Rules of the Association† as between first Seller and last Buyer, as though they were contracting parties, and the award made in pursuance thereof, subject to the right of appeal as provided by the printed Rules of the Association,† shall be binding on all intermediate parties. Should the terms of Contract not be identical, such arbitration shall, in like manner, be held as between the first Seller and last Buyer whose Contracts are identical.

13. All payments by the first Seller to the last Buyer, or out of moneys retained by the Secretary under Clause 23, made in respect of allowances under any award in pursuance of Clause 12, shall operate as payments and settlements between all intermediate parties.

Procedure on last day of Contracts.

Registration Fees.

Return of Fees.

Rejections and Arbitrations.

Arbitration between first Seller and last Buyer.

\* See Rule 10.

† See Rule 2.

‡ This applies to every first Seller on a String, or registered Declaration, whether he be first Seller on the Tender or not.

\* See Clause 4 hereof.

† See Rule 17.

Tenders rejected after expiration of time.

14. Where the terms of Contracts are identical, except as to price, and a Tender has been made in due time, but such Tender has been decided by arbitration to be not in accordance with the Contract, and the period specified in the Contract for Tenders has expired, the goods shall be invoiced back by the last Buyer to the first Seller at the price of the last business day of the said period, together with such penalty (if any), not exceeding 5 per cent. on such price, as may be decided by arbitration, and all intermediate parties shall settle their differences as if a valid Tender had been made.

First Clearing.

15. The Secretary shall fix a time for the first clearing immediately on receiving notice from the last Buyer that he is prepared to make payment and take up his delivery order. Two hours' notice of such clearing shall be given to all parties interested, but the date shall not be later than that provided by the printed Rules of the Association.\*

16. The first Seller shall in all cases hand to the Secretary a delivery order for the goods at or before the first clearing.

At the time fixed, the last Buyer shall present his deposit receipt for the amount of his invoice, and all intermediate parties who have differences to pay shall pay the same, or present their deposit receipts for the amounts payable, any deposits made under Section B being allowed for. The Secretary shall then hand the first Seller's delivery order to the last Buyer, who shall give in exchange his delivery order to be retained in the Clearing House.

17. When goods are tendered with the word "about" preceding quantity, payments shall be based provisionally on the quantity named.

Default (see Association Rule IX.)

18. Should any party to a Contract, being an intermediate party, fail to pay his difference, or being last Buyer fail to pay his invoice amount, the Secretary shall report the matter to the Committee, and shall also notify such party, in writing, that he has failed to make such payment; and if the payment be not made within twenty-four hours after such notice (Sundays and Holidays, as defined in the printed Rules of the Association† not to be counted), the Committee shall have power to declare him a defaulter, and to post his name as such in the Clearing House and in the Room.

In case of non-payment by an intermediate party the Secretary shall notify the Seller to and the Buyer from the intermediate party, and the Seller and Buyer shall each deposit the whole difference unpaid at the time specified in the notice. Such deposits shall be adjusted by the Committee in the proportion due from the Seller and the Buyer respectively.

In case of non-payment by a last Buyer the Secretary shall notify the preceding Buyer, who shall pay his own invoice amount at the time specified in the notice.

Payments to First Seller.

19. The amount due to the first Seller shall be retained by the Clearing House until delivery of the goods, but he shall, subject to the provisions of Clause 23, be entitled to receive payment on account as delivery proceeds, such payment being calculated on the quantity delivered during the preceding day, as certified by himself and the last Buyer.

Inter-mediate Clearing.

The amount due to intermediate parties shall, unless good reason to the contrary be shown, be paid to them not later than six business days after the first clearing, and if the statement of actual weight delivered be not then in the hands of the Secretary, settlement for any difference between the quantity named on the Tender and the quantity finally delivered shall be made between first Seller and last Buyer on the basis of the market value of the goods on the third business day after the

Tender, and each Tender so settled shall be considered as made under a separate Contract.

Interest on Deposits.

20. The first Seller shall not be entitled to interest on cash deposited until the expiration of three business days from date of such deposit, but after that time the last Buyer shall pay interest to the first Seller at the rate of 5 per cent. per annum until the money is paid over, unless, in the option of the Committee, the Seller has been in default.

21. Intermediate parties shall not be entitled to interest on differences due to them, unless final settlement be delayed beyond the tenth business day after the day of Tender. If the final settlement be so delayed the first Seller and last Buyer shall be jointly and severally liable to intermediate parties for interest, to be reckoned as per Clause 20, on the differences which such intermediate parties are entitled to receive, together with such other damages as the intermediate parties may prove to the satisfaction of the Committee. The amount of such interest and damages shall be deposited in full by both first Seller and last Buyer, together with such fee as the Committee may charge for the investigation, and the deposits shall be adjusted in the proportion due from first Seller and last Buyer respectively, by the Committee.

Final Clearing.

22. A statement showing actual weight delivered, and signed on behalf of last Buyer and first Seller, shall be handed to the Clearing House within three days of completion of delivery, when a final clearing shall be called by the Secretary.

23. When the last Buyer has claimed arbitration, but such arbitration cannot immediately take place owing to the proper standards not being made up, or other sufficient cause, the last Buyer shall direct the Secretary to retain out of the amount due to the first Seller a reasonable sum (to be fixed, in case of need, by the Committee) to be held as security for any allowance which may be awarded, but all intermediate parties shall receive payment of their differences in full.

Delay of Arbitration.

24. When the goods tendered are awarded to be invoiced back to the first Seller, but the price at which they are to be so invoiced stands over, a provisional settlement shall be made, in accordance with the printed Rules of the Association,\* at a price to be agreed upon, or, in case of need, to be fixed by the Committee, and the first Seller and the last Buyer shall each, on the application of any party to the Tender, deposit a reasonable sum (to be fixed, in case of need, by the Committee) to be held as security for any difference between the provisional settling price and the price at which the goods are invoiced back; but all intermediate parties shall receive payment of their differences in full.

Provisional Settlement.

#### THE LIVERPOOL CORN TRADE ASSOCIATION, LIMITED.

Resolution adopted 21st March 1888, as amended 4th July 1888:—

"That the words 'Liverpool Standard' as applied to Bombay wheat shall mean,—

"(a) In the case of Choice White Bombay, not less than 93 per cent. of soft white club wheat, not more than 5 per cent. of soft red and hard wheat, and not more than 2 per cent. of dirt, seeds, and grain other than wheat;

"and—

"(b) In the case of No. 1 White Bombay, not less than 85 per cent. of soft white club wheat, not more than 13 per cent. of soft red and hard wheat, and not more than 2 per cent. of dirt, seeds, and grain other than wheat."

\* See Rule 8.

† See Rule 3.

\* See Rule 8.

## APPENDIX B.

MEMORANDUM by Mr. CHARLES WHITEHEAD, Agricultural Adviser to the Privy Council, as to the INTRODUCTION of INSECTS injurious to CORN and CORN CROPS in WHEAT imported from INDIA.

It is well known that the wheat that is imported from foreign countries is frequently brought to Great Britain in a very dirty state, and containing other seeds, dirt, and much heterogeneous rubbish.

In some cargoes arriving from Australia, Russia, and India, the condition of the wheat in these respects has been particularly bad.

The presence of other seeds, dirt, bits of chaff, straw, and rubbish is in many cases due to carelessness in screening the wheat, or from the want of any screening at all, when it is taken direct to the ports from the "godowns" or granaries, or from the village pits where the wheat is shot and covered over with earth.

There appears to be no Government inspection of wheat in India. In the United States officers are appointed in every State to inspect and "grade" wheat, according to its quality and cleanness.

But, besides that which may be termed a more or less natural dirty state from insufficient screening, or from no screening at all, there is a practice prevalent in India of deliberately mixing dirt, rubbish, damaged seeds, as linseed and rice, with clean wheat, to add to its bulk.

This causes much loss to wheat importers and merchants, and millers, necessitating the employment by these last of costly machinery.

Not only this, but the foreign matter mixed with wheat imported from India into this country serves as a medium for the wholesale transportation of insects injurious to crops.

From the cleanings of Indian wheat several categories are formed at the flour mills.

One consists of short pieces of straw of from 1 inch to 2½ inches long, with pieces of wheat ears. This is sold for litter, and is distributed among various farms in the neighbourhood of the mills. In this straw the most dangerous corn insects might be introduced, insects of the type of the Hessian fly, which was without doubt brought into this country in this way; and of the type of the *Icosoma hordei*, the "joint worm," whose appearance in Great Britain is feared by agricultural entomologists.

Another comprises light and misshapen grains of corn with weed seeds, known in this country as "screenings," and which ought to have been taken out of the bulk by the Indian producers. This is purchased for pigs and for chickens' food, being therefore scattered over the face of the land.

In this corn, weevils especially, and other insects may easily be conveyed. It is well known that weevils are most destructive to wheat and other grain in India. It is also equally well known that they are brought over to British ports and granaries in abundant quantities with Indian wheat.

One species of weevil, the *Calandra oryzae*, the rice weevil, does enormous harm to wheat in Indian granaries, and to wheat while it is being transported in vessels to this country.

The admixture of dirt, seeds, and rubbish causes the wheat to heat, which of course is detrimental to its quality, and at the same time causes the weevils to propagate unusually and to materially damage it. Sometimes the cargoes of wheat that have heated are

nearly alive with weevils, entailing enormous waste and heavy losses upon importers.

This loss continues when the bulk is taken to granaries or warehouses, while the heat is still evolved, and the weevils revel in it.

According to estimates furnished by Messrs. Ralli, the well known Indian wheat shippers, the amount of loss occasioned by weevils is put at an average of 2½ per cent. Taking the value of wheat exported at 6,000,000L., the amount of loss due to this insect in exported wheat alone equals 150,000L.

Another weevil, the *Calandra granaria*, closely allied to *Calandra oryzae*, is also brought over with Indian wheat. This weevil is known in British and other European granaries, but it is presumed that the heat and surrounding circumstances of cargoes of Indian wheat favour its development and stimulate its powers of destruction. As it breeds freely in this country the danger of its distribution is very great.

Besides the actual money loss occasioned by these weevils, it is stated that the flour made from wheat much infested by them is injurious to health. Mr. E. C. Cotes,\* the First Assistant to the Superintendent of the Indian Museum at Calcutta, asserts this, maintaining that "the weevils contain certain yessicant properties which are known to be powerful irritants to certain organs of the body, even in extremely minute doses." And in the "American Entomologist" it is recorded that *Calandra granaria* has been successfully used as a substitute for cantharis in blisters.

With regard to the dirt in Indian wheat, which is described as small, hard lumps of dirt and clay, it is sometimes absolutely necessary to wash and soak the bulk of wheat to soften the lumps. Little flies are often noticed coming from the wheat thus treated. These flies may or may not belong to injurious species, but it is clear that flies are introduced in this manner, and insects of this description are among the most formidable enemies of many kinds of crops.

Most serious danger may arise to the crops of this country, and must be apprehended, from the insects that can so easily be brought into it with imported grain from India as well as from other countries.

The ravages of insects upon crops of all sorts in all climes increase year by year. New insects are continually observed by the perplexed cultivators in every part of the globe. The facilities of international intercommunication have widely disseminated species of insects. In this country economic entomologists are always expecting some fresh arrival, some new insect scare, and they join always most heartily in any practical representation that may be made to the Government to take steps to prevent the introduction of new pests. Realizing completely the danger to be feared from the present system of importing wheat, especially from India, they must hold that it is essentially important that the "dirt, rubbish, seeds, and short straw," perfect vehicles for destructive insects, should be left in India.

\* See "Notes on Economic Entomology," No. 1. A preliminary account of the Wheat and Rice Weevil in India, by E. C. Cotes, Calcutta, 1888.

## APPENDIX C.

## IMPURITIES IN INDIAN WHEATS.

SIR,  
Sheffield,  
2nd May 1889.  
In submitting the result of personal experience and observation in India with regard to the dirty condition in which Indian wheats are exported, to be intelligible, it is necessary to begin at the beginning, and to traverse the whole subject, though no doubt much that follows is merely a repetition of facts already in your possession.

There are two kinds of impurities found among Indian wheat, viz. :—

1. Different varieties of grain, and smaller seeds, such as barley, gram, rape, linseed, &c.
2. Dust, small pellets of earth or clay, and small stones.

The "ryot" or cultivator is entirely responsible for the presence of the first of these, and generally, to some extent, for at least a portion of the second.

In order to ensure a crop of some description, he deliberately sows a mixture of wheat, gram, and

perhaps several other kinds of seeds, in the hope and belief that if the season should turn out unfavourable to wheat growing, it may be favourable to some one or other of the mixture of seeds sown.

The mixed seeds grow up, ripen, and are gathered in and threshed together. As the "ryot" has no mechanical appliances for winnowing and cleaning, the primitive method of letting the grain and chaff fall from a sieve in the wind fails to separate and remove the gram and other foreign seeds from the wheat.

A portion of the earth and small stones present is due to the mode of threshing in use in India from time immemorial.

A flat space is chosen for a "threshing floor" in the vicinity of the gathered and stacked grain, this selected area is plastered over with mud, which is trodden, beaten, and dried by the sun, to a tolerably hard even surface.

A stake is driven into the ground in the centre of the prepared floor. Round the stake on a circular area, varying in diameter with the number of bullocks employed, the wheat as taken from the fields is spread to a depth of about two feet; three, four, or more bullocks connected to each other are driven abreast in a circle over the wheat so spread, the inner bullock being usually attached by a rope to a ring or noose, which revolves on the stake.

In this way the grain is released from the ear, without being damaged, and the straw is crushed, or bruised and broken, into what is called "bhusa" or into what the "ryot" believes to be the only condition in which it is fit to be given to his bullocks to eat.

The prepared floor gets broken up, more or less, during the threshing process, and in taking up the grain, dust, small pellets of earth or clay, and small stones get taken up along with it. Winnowing in the wind, however carefully done, though it may remove the dust, cannot entirely eliminate the small stones and small pellets of earth or clay thus taken up.

A further source of admixture of dirt is found in the storing of wheat in pits, resorted to in India. When prices are low the "zemindars" who can afford to wait for a probable "rise" in the market may decide to store their wheat for a time. This is done in the following way:—

A hole eight or ten feet deep, and about five or six feet in diameter, is dug in a carefully selected suitable place, this is lined with chaff or "bhusa," and the wheat put into it, and covered up, first with chaff or "bhusa" and then with earth; the manner of storing is in fact almost precisely similar to the way in which potatoes are stored in this country, only the pits are deeper.

It is, of course, impossible to remove the grain from a pit of this description without some earthy impurities being added to it, and it is chiefly while stored in the manner described that Indian wheats get damaged by insects and become "weevilled."

The smaller cultivators are, however, much too poor to wait for a rise in prices, indeed in many cases their wheat crop is mortgaged to the local "bunniah" before it is gathered in from the field.

So far the introduction of a variable proportion of the foreign matter found among Indian wheat is a natural and innocent consequence of the "ryot's" endeavour to ensure a return for his labour, together with possible carelessness as to the condition of his land, and the result of his primitive threshing, winnowing, and storing arrangements.

Any further addition of dirt, whether such addition be made by the "ryot" or by the "bepari" or middleman, is due to the premium placed on dirty wheat by the system or basis of purchase which buyers for the European market have adopted.

It is assumed by the export houses in India that all Indian wheats contain a minimum of 5 per cent. of foreign matter, or, as it is called, "refracts" 5 per cent. *However paradoxical it may appear, it cannot be disputed that, in consequence of this fixed minimum "refraction," the "ryot" is a loser if he sells clean wheat, and must also lose by selling dirty wheat.*

The exporting buyers and the "bepari" or middleman, by means of this 5 per cent. "refraction," play a "heads I win, tails you lose," kind of game with the Native cultivators.

In effect, they are mulcted in a penalty increasing up to 5 per cent. the nearer their wheat approaches to a clean condition.

That is, other things being equal, the cultivator who sells wheat with a less percentage of dirt mixed with it than the fixed minimum loses the difference between 5 per cent. and the actual percentage of dirt present, or, in other words, if there is only  $1\frac{1}{2}$  per cent. of dirt in the parcel of wheat which he sells, he loses  $3\frac{1}{2}$  per cent.

Practically, the custom of buying subject to a fixed minimum "refraction" has established a standard of impurity, which there is neither fraud nor rascality in adulterating to, as, should an analysis of samples show the "refraction" to exceed 5 per cent., a deduction is made *pro rata* from the amount to be paid to the seller.

It would be placing the "ryot" much lower in the scale of intelligence than he actually is, to suppose him incapable of comprehending that it is he who pays the cost of carrying 5 per cent. of foreign matter mixed with his wheat by rail and steamer from India, and up to the point of delivery into the hands of the miller, and also for the separation and removal of such foreign matter by washing and screening. But while it continues customary to buy on a fixed percentage of "refraction," it is clearly to his interest to supply 5 per cent. of dirt.

As excess "refraction" is deducted from whatever price may have been agreed on between buyer and seller in India, there does not appear to be any good reason for having a fixed standard of impurity.

If the deduction for impurity was made variable with the percentage found, the direct inducement to adulterate would be done away with.

A great reduction on the quantity of foreign matter now found in Indian wheats could undoubtedly be made by the "ryots" sowing clean seed wheat and exercising greater care in threshing and winnowing it, but so long as the present modes of threshing and storing continue, absolutely clean wheat cannot be produced.

Supposing it possible to remove all particles of dust and dirt, there would still remain the question of its being necessary to wash Indian wheats, because of possible defilement from the urine and droppings of the cattle employed in threshing, or, more correctly, treading it out.

The mixing of white and red varieties of wheat together is not an unimportant matter as regards the value and general suitability of Indian wheats for both stone and roller mills. But whether admixture is solely due to the sowing of mixed seed wheat, or to this coupled with carelessness on the part of the "bepari" or middleman, its tendency is to lessen values, and as there is no compensating advantage, such as payment for dirt affords, it may be regarded as a minor evil calculated to work its own cure.

The continuance of an objectionable tax on the Indian wheat export trade is necessarily a hindrance to the further development of India's vast resources as a wheat producing country, as yet only to a small extent utilized.

The tax is discreditable to both parties most directly concerned, that is, to shippers and cultivators, but in a greater degree to the former than to the latter, since they are clearly chargeable with having introduced and fostered it for their own possible advantage.

It has been shown that it is impossible for the "ryot" to benefit by it. That being so, it cannot be fair dealing, or the loss would not thus inevitably be all on one side.

If the "shipper" incurred a risk of loss from shipping dirty wheat, it is reasonable to suppose that his influence would be exerted to remove such risk.

The writer's experience, when engaged in an endeavour to introduce steam threshing machinery into the Bombay Presidency and Central India in the early part of 1885, showed that "shipping houses" could not be induced to take any active part, or make any effort whatever, to promote the export of clean wheat from India.

Collectively, and as an abstract thing, merchants expressed warm approval of the principle of exporting clean wheat.

The Bombay Chamber of Commerce passed resolutions eulogizing and approving samples of clean wheat threshed by the steam threshing machine, and submitted to them by the Director of Agriculture (Mr. Ozanne), and condemned the shipping of dirty wheat to Europe. But, when it came to taking a step out of the customary groove, when one of the largest "exporting houses" was asked to buy a parcel of absolutely clean wheat, threshed by the steam threshing



machine in the Nasik district, the reply was a courteous refusal to purchase, on what was probably the most convenient and plausible pretext at hand, that "they never bought grain except where they had an agent established."

One member of an important "shipping house," in conversation with the writer, said frankly, "Why should we trouble ourselves on this matter? We do not come here to do business for the benefit of the 'ryot,' but for our own benefit, and, if we can do business to our own satisfaction and profit as things are, it is no concern of ours that the 'ryot' does not secure a fair price for his grain."

The custom of "selling forward," that is, selling a shipment of wheat in England before it is bought in India, and the method of adjusting prices on averages of samples adopted in this country, are both difficulties in the way of the exportation of clean wheat from India, but they could probably be more easily surmounted than the self-interest, apathy, and indifference of Indian wheat exporting firms.

The reforms necessary before any reduction can be effected in the quantity of dirt shipped with Indian wheats are,—

1. Reform of trade customs.
2. The "ryot" must sow clean wheat in clean land.
3. The "ryot" must adopt some method of threshing and cleaning his wheat which will not necessitate its being brought into contact with the earth.
4. An improvement must be made in the mode of, or in the arrangements for storing.

A reform of trade customs should be the first step to be taken, and this should begin by the repeal of the fixed minimum "refraction."

Wheat is purchased in India by measure, and sold in England by weight, and as earth and stones are, bulk for bulk, much heavier than wheat, the shipper obtains a slight advantage here also from "dirt."

In this connexion it may be mentioned that the adoption of one standard of weights and measures throughout India would simplify and facilitate business. At present there are three or more.

There can be no doubt that, given an inducement to supply clean wheat by the offer of a higher price, that is, by the purchase of wheat on its merits—the only fair basis of purchase—clean wheat would be forthcoming.

Though the "ryot" may truthfully be described as foolishly conservative in many things, adhering to the manners and customs of his forefathers, with a pertinacity and determination which might often be more usefully directed, he will adopt an improvement readily enough when he sees clearly that it is to his interest to do so.

One of the principal reasons for his continuing to tread out the wheat on a threshing floor by means of bullocks is that, as already stated, he believes there is no other way in which the straw can be made into "bhusa" or fodder. He might, however, be shown that the straw could, if necessary, be trod into "bhusa," after the removal of the grain, by some such means as are now in use for threshing rice.

Winnowing and cleaning machinery would, undoubtedly, enable the "ryot" to produce a better sample of grain, but such machinery is not indispensable to the obtaining of clean wheat from India. Provided that clean seed wheat is sown in clean land, and that the resulting product is not afterwards brought into contact with the earth during threshing or cleaning, or stored in pits of the description at present in use, it is quite possible for the "ryot" to produce clean wheat with but a small and comparatively inexpensive addition to his present primitive appliances.

If the wheat was kept from contact with the earth by a sheet or sheets, made from the material used for "gunny bags," during the threshing and cleaning processes, one of the foregoing conditions would be complied with at a very small cost to the "ryot."

The general introduction and use of steam threshing machinery in the wheat growing districts of India is put forward as a solution of that part of the problem in hand connected with threshing and cleaning.

While there is much to be said in favour of the employment of steam threshing machinery in India, its introduction must necessarily be gradual, and to wait for its effect would be to postpone the desired improvement to an indefinite period.

The opinions and prejudices of the "ryot" are probably the least obstructive of the many difficulties in the way of a general introduction of steam threshing machinery into India.

Objections raised by the "ryots" to the working and to the result of the working of a steam threshing machine in 1885 were such as could be readily overcome.

The fact that the threshing machine did not bruise the straw and make it all into "bhusa" or fodder was the main objection raised against it. A good deal of importance was attached to this alleged shortcoming, and it was urged that the cattle could not eat the straw and chaff as produced by the threshing machine.

Believing the "bhusa" or fodder obtained in the ordinary way to be more or less tainted and defiled by preparation, the writer determined to submit the question to the bullocks themselves, as being the best judges of the qualities of "bhusa." Some broken straw and chaff produced by the threshing machine was therefore laid side by side with about an equal quantity of "bhusa" trodden and bruised by bullocks in the usual manner. Several bullocks were driven near the heaps and allowed to choose for themselves. In every instance, without exception, the bullocks, after sniffing at both the "bhusa" and the straw and chaff produced by the threshing machine, showed their preference for clean food by feeding greedily on the latter, and rejecting the native "bhusa." The "ryots" who witnessed this appeal to the discrimination of the bullocks were manifestly surprised and disappointed that their opinions were thus contradicted, and had but few remarks to make on this point thereafter.

It must, however, be acknowledged that, in consequence of the hard brittle nature of the most of the wheat straw grown in India, crushing and bruising renders it more suitable for fodder,—less liable to cause injury to the animal's mouth and throat.

Wheat straw is not always used as fodder in all the wheat growing districts of India, but it is resorted to when other more desirable fodder is wanting.

When necessary, the attachment of a straw crushing and bruising apparatus to the threshing machine removes all possible objection as to the unsuitability of the straw produced by it for fodder.

The only other sensible objection against the working of the steam threshing machine was that a small proportion of the grain was chipped.

Owing to the extremely dry, hard, brittle nature of the wheat straw, already alluded to, and the dry hard condition of the wheat, this defect will be found very difficult to entirely eliminate.

Superstitious ideas respecting the introduction of any, to the Natives, new-fangled inventions would be outweighed by a clear proof of pecuniary advantage to be reaped from their use, and the same may be said with regard to the objection that the "ryot" would have no employment for himself, his family, and his bullocks during the period of the year now occupied in threshing and cleaning his wheat.

Supposing the "ryot's" personal objections to be entirely met and overcome, however, the only way in which the vast majority of Native cultivators could obtain the use of a set of steam threshing machinery is by hiring, or by some form of combination to purchase, which has yet to be taught them, as the first cost is far beyond the resources of the individual "ryot."

Roads which would permit a set of steam threshing machinery to be drawn by bullocks across the country, have in many parts yet to be made, and any attempt to take a steam threshing plant, of the smallest size and capacity at present made, down a grade of moderate inclination would probably be attended with disaster, if bullocks were employed.

Facilities for loading or unloading heavy unwieldy articles, such as portable steam engines and steam threshing machines, are conspicuously absent from Indian railway stations.

There would undoubtedly be great difficulty and delay attending the execution of repairs to, or renewals of, parts accidentally damaged or destroyed, and the, to the Natives, somewhat complicated mechanism of a threshing machine, makes European management and supervision indispensably necessary for successful working.

These, in the opinion of the writer, are much more serious obstacles in the way of a general adoption of steam threshing machinery in India than the personal objections of the "ryot."

The question whether they are too difficult for British enterprise to surmount may be left with those who consider it to their interest to test the matter.

With regard to the storage of Indian wheat, it is probable that those who can afford to hold their wheat for a "rise" in prices could also afford the comparatively small expense of making their storage pits clean and vermin proof, by lining them with concrete, bricks, or stone.

Wheat is sometimes damaged in course of transit by exposure to wet, in consequence of no provision having been made at railway stations for temporary storage. This is a matter for the Railway Companies to remedy. If sufficient facilities are given for the examination of consignments at the railway termini, and the Railway Companies mulcted in penalties for failure to deliver in good condition as received, the needful covered, and in every way efficient, accommodation will soon be provided.

Turning to the attitude now assumed by the Indian wheat exporting houses respecting the exportation of clean wheat, they practically say,—“We have tied our own hands and those of the ‘ryots’ in this matter, and we cannot untie them without extraneous aid, or the assistance of the Government.” But, while the influence, and, if necessary, the power of the Government of India may be wisely and usefully exerted at a later stage, it does not appear that Government interference is required for the initiatory proceedings of the desired reform, unless it should be needful to compel the abolition of the premium on impurity.

If a consideration of the question in all its bearings by the Indian Council, and by representatives of the various Corn Trade Associations, should result in prompt, decisive, and efficient reforms in the mode of appraising values, and the form of purchase of Indian wheat in this country, export houses in India could no longer make the excuse they now appear to rely on as a sufficient reason for continuing the 5 per cent. minimum refraction, viz., “that it is necessary owing to the action of merchants in this country.”

A trade custom which gives a manifest advantage to the most influential party may, however, be expected to die hard, and it is very questionable whether a free, spontaneous, and immediate reform in the required direction by shippers of Indian wheats may be anticipated, as a result of the expression of desires and opinions of millers and others in this country, however unanimous they may be.

In the event of it being found impossible to induce export houses to forego the advantage which a 5 per cent. minimum “refraction” gives them, the formation of a Syndicate to purchase and export clean wheat from India is the only way in which the question can be practically dealt with.

Such a Syndicate, if supported loyally by the millers in this country, and backed up by the influence and assistance of the Indian Government, to the extent of giving the “ryot” facilities for obtaining clean seed, and kindly counsel through their officials, could not fail in effecting the desired improvement.

As the adulteration of wheat cannot be held to be fraudulent, being practically legalized by the trade custom, it is difficult to see how any legislative enactment could be framed of a positive or prohibitory character to deal with it.

It might be found possible, however, to support a Syndicate for the purchase and exportation of clean wheat by passing an Act of a negative character, which would make trading in dirty wheat illegal, and, therefore, contracts made in respect of such wheat not binding nor recognized in a court of law.

In any case, no pressure should be put on the “ryot” to produce clean wheat until he can get a fair price for it. Then, in all probability, the necessity for coercion in any form will have passed away.

I am, Sir,  
Your obedient Servant,  
W. GALLON,  
Assoc. M. Inst. C.E.

Sir George Birdwood,

## APPENDIX D.

### INDIAN WHEAT AND ITS IMPURITIES.

To the Editor, “Beerbohm’s Evening Corn Trade List.”

SIR,

10th May 1889.

I CANNOT think the National Association of British and Irish Millers will submit to have the conditions under which wheat is to be shipped from India (except to the port of Liverpool) dictated to them by the London Corn Trade Association. The Hon. J. Forbes Adam says, “The fault lies not at the door of Bombay exporters, but with millers, buyers, and Corn Trade Associations in England,” and he adds, that “the Bombay Chamber of Commerce resolved to request the London and Liverpool Corn Trade Associations to fix the refraction on all wheat sale contracts at not over 2 per cent.” Liverpool agreed—London declined; and the latter followed this up with a report at the India Office meeting, which I felt bound to denounce as a most uncompromising document, and which is really the most obstructive and no surrender manifesto which, I should say, was ever issued from a public commercial body called upon to assist in the improvement of a great national commercial interest. I did not think before that an association could be found in England whose patriotism was so entirely confined to their pockets. I mentioned at the meeting that some of the largest firms in Ireland and England used very little Indian wheat, and several millers noted that a vast number of small millers cannot use it. The Government reports from millers prove this incontestably, but, notwithstanding this, I have failed to find one single sentence in the London Association’s circular which admits willingness to cooperate in assisting the millers. It is suggested in the Government report that Indian wheat was probably sent to Mediterranean ports in better condition than

to England, but I doubt this. In Marseilles I know that, the climate being dry and hot, washing is one of the ordinary operations of the wheat cleaning system on all wheats, and therefore all mills have the necessary washing and cleaning plants; but the manufacture of pure semolina is a large trade there, and some sorts of Indian wheat are found very suitable, but in the very best samples of semolina I found traces of dirt and stone. This illustrates a fact well known to millers, that, after the “break flour,” the next to be damaged is the highest qualities. Though I went to Lord Cross’s meeting as a member of the London Chamber of Commerce, I had not intended to speak, but whilst sitting as a listener, a gentleman whom I do not know came and asked me to reply for the London contingent, as the other side had had it nearly all their own way. I did my best (though badly) to reply to them, and I wish I could have more forcibly assisted the northern corn traders and the millers. My knowledge of the milling trade enables me to say, without any chance of being contradicted, that almost unanimously the millers object to the dirt in Indian wheat, and the same, I believe, applies to the milling engineers. I believe they would thoroughly approve contracts being based on only 2 per cent. refraction. It is stated in the Government report that what Messrs. Ralli call the 5 per cent. *stuff* (how clearly they know the name to give it) is partly made up of dirt and stones *purchased by the Native traders, and mixed into the wheat sold as fair average quality.*

The practice probably was suggested from the fact that the threshing floors are made of dried mud; in which there are also stones. As it will take years to generally introduce the threshing machine, I suggest that an effort should be made to introduce cement threshing floors.

Yours truly,  
J. HARRISON CARTER.



## APPENDIX E.

Victoria Corn Mills, Sheffield,  
1st June 1889.

DEAR SIR,

YOUR report on the impurities of Indian wheat fully confirms the desire of English millers to purchase it cleaned.

But it will be in vain to ask either grower or dealer to furnish it clean unless it is to his advantage to do so.

English millers' objections to buy Indian wheat on terms of "f. a. q.," with dirt clause of 5 per cent. and average sample prepared in London, are manifold:—

1. That the grower does not deliver the wheat in marketable condition.
2. That on its passage to England the wheat is being consumed and deteriorated by that abominable pest the weevil.
3. That "average sample" which is to test the quality of delivery is a monthly preparation by the London Corn Trade Association over which the miller has no say.
4. That the "average sample" varies considerably, and affords no criterion to the millers what to expect in succeeding months. Buying this is very much like "pricking in the belt."
5. It is impossible to estimate the loss the English miller suffers by having to extract the weevil from the wheat in his mill, and so get the nuisance on his premises, instead of being extracted by the grower. In some cases this extends to 5s. per quarter, and on tedious voyages in the hot season the wheat is rendered unfit for making flour.
6. That in cases of arbitration the members of the London Corn Trade Association are the sole arbitrators. Without in any way doubting the integrity of those gentlemen, it is easy to see the miller is placed at a disadvantage; that reciprocity is all on one side.  
A miller, who best understands the interest of millers, should form part of the arbitration to protect the buyer's interest.
7. In case of arbitration the miller, however far distant he may reside, is put to the trouble and expense of attending at the port where he bought the wheat, as there alone the arbitration must be held.
8. Indian wheat shipped with 5 per cent. of dirt in it can only be used by those English millers who have adopted costly cleaning machinery to treat it (who do not number one in twenty), thus sadly limiting the demand for Indian wheat. Were the wheat exported clean, its quality being well adapted to the English market, all millers would gladly use it, and thus aid the development of our Indian Colony.
9. The practice of adding dirt to the wheat is the most execrable of all. Of this admixture of dirt there is no possible method of ascertaining exactly the "5 per cent." The man who has the hardihood to mix 5 per cent. (or any less quantity), his elastic conscience will not scruple to mix 6 per cent. or more, which frequently proves the case to the miller, who has no remedy. In England there is a law to punish the miller if he adulterates flour; in India there should be a law to punish the man who adulterates wheat.

With its present rude mode of agriculture, India labours under many and serious disadvantages compared with those wheat growing countries who use the best appliances and facilities to lessen the cost of production. The latter could not easily be induced to return to the practice of those primitive times when it was commanded,—“Thou shalt not muzzle the ox that treadeth out the corn.”

It is evident that, before India can take her stand on equal terms with other countries to produce wheat for the world's market, much labour and wise forethought will have to be exercised, and abounding difficulties overcome. Amongst those things that will greatly conduce to this end:—

1. Let Government provide good railway and road accommodation, and as far as possible all other helps for cheap and expeditious transit; also public elevators or warehouses at convenient

stations where the farmer can store his grain cleaned, to be properly graded by a Government Inspector, so that he can either sell or keep it, after the practice universally adopted in America. In this way arbitration (so objectionable to all parties) will be avoided. The wheat having a fixed character will be sold on its merits, on terms alike to seller and buyer.

I have seen in Dalrymple's farm, near Fargo, U.S.A., a wheat field of 12,500 acres cultivated by the plough and mules. The proprietor told me he should reap the whole in 14 days by mowing machines, and thresh and winnow the whole in 28 days, and place it in trucks on the railway to be sent to an elevator at New York properly prepared for sale.

2. Let the farmer be encouraged and helped, if possible, to procure and use the best threshing and cleaning machinery, to enable him to send his grain properly cleaned to market. To prove how cleaned wheat will benefit him, take as an example 100 quarters wheat, sold with dirt in to extent of 5 per cent., reduced by better cleaning by the grower to 2 per cent.

|  | Qrs. |         |
|--|------|---------|
| The English miller, or last buyer, receives of cleaned wheat   | 97   |         |
| Of dirt, for which he has to pay the price of wheat  | 3    |         |
|  | 100  |         |
|  |      | £ s. d. |
| On this 3 qrs. dirt he has to pay carriage from the sender to the shipping port on an average, say, of 2s. per quarter | 0    | 6 0     |
| Freight from Calcutta to English port (20s. per ton) on 3 qrs.   | 0    | 13 4    |
| From English port to mills in the interior, average (6s. 8d. per ton) on 3 qrs.  | 0    | 4 5     |
| And for the dirt itself at, say 25s. per quarter, on 3 qrs.  | 3    | 15 0    |
|  | £4   | 18 9    |

Practically, on the 97 qrs., he receives 1s. per quarter, which more than compensates for the 10½ per cent. reported to be lost by selling clean wheat instead of dirty.

|   | £ | s. d. |
|---|---|-------|
| If the wheat was sold at 30s. per quarter instead of 25s. the amount would be | 5 | 13 9  |
| If the wheat was sold at 35s. per quarter instead of 25s. the amount would be | 6 | 8 9   |

Further, from machine threshing compared with bullock threshing the former will secure more and cleaner wheat from the straw (I think by 5 per cent.), and by good winnowing he will provide wheat clean and sweet instead of dirty, and often stale, from the bullock's presence, when the bran or rind of the wheat berry from its spongy nature is liable to absorb offensive moisture, causing the wheat to heat in transit.

If I have correctly estimated the advantage of steam threshing at 5 per cent.,—

|                           | £ | s. d. |
|---------------------------|---|-------|
| 5 qrs. at 25s. will yield | 6 | 15 0  |
| 5 „ 30s. „                | 7 | 10 0  |
| 5 „ 35s. „                | 8 | 15 0  |

This (or whatever is the correct proportion) will be profit to the farmer, as the time and labour saved will recoup him for the cost of improved means of working.

The difficulties, vexation, and loss inflicted on the English miller by the present tortuous methods of selling Indian wheat would all be obviated by the grower preparing his wheat in a marketable condition, and would more than double the demand for it.

I am well aware that the needed improvements for India must necessarily be of slow and progressive growth. A knowledge of their defects, and how to improve them, must be their first steps to advancement.

I am, dear Sir,  
Yours truly,  
SAML. SMITH.

## APPENDIX F.

EXTRACT FOREIGN OFFICE DIPLOMATIC AND CONSULAR  
REPORTS ON TRADE AND FINANCE.

Report for the year 1888 on the Trade of the Consular District of Odessa (Russia).

The question of elevators, one of which has been successfully erected at Eletz, in the Government of Orel, at the junction of the Uslovaia-Eletz and the Orel-Verkhovîe-Eletz-Griasi Railways, is now being seriously discussed by the Zemstvos, or Provincial Councils, in my district. It is felt that, if steps are taken for the proper storage, conditioning, and sorting of grain at important centres, so that it should be forwarded, as means of transport are available, to the ports for shipment abroad, South Russia will be in a better position to compete with America and India than she is at present. How South Russia is pushing forward in the race of production is proved by the enormous development of the export trade from this port, and even at the end of 1888 only half the year's crop had been exported. The stock then in warehouse was estimated at 3,100,000 tchetverts (2,232,000 quarters), against 1,800,000 tchetverts (1,296,000 quarters) at the end of 1887.

Annex B gives the quantities and values f. o. b. of the several kinds of grain exported during the years 1887 and 1888, showing a very large increase in wheat, barley, rye, and oats, but a falling off in maize.

The average prices f. o. b. during the year were as follows:—

|                      |   |    |    |
|----------------------|---|----|----|
| Winter wheat (Azima) |   | s. | d. |
| Fine quality         | - | 28 | 6  |
|                      |   | 25 | 0  |
| Inferior quality     | - | 27 | 0  |

|   |   |          |              |
|---|---|----------|--------------|
| Spring wheat (Ghirka),—                               |   | s.       | d.           |
| Fine quality  | - | 27       | 6            |
|   |   | 24       | 0            |
| Inferior quality                                      | - | 26       | 0            |
|   |   | 26       | 0            |
| Rye   | - | 16       | 0            |
| Maize   | - | 18       | 6            |
| The above prices are per Imperial quarter of 480 lbs. |   |          |              |
| Barley  | - | 13s.     | per 400 lbs. |
| Oats  | - | 10s. 6d. | per 320 lbs. |

## Annex B.—RETURN of Principal Articles of Export from Odessa during the Years 1888 and 1887.

| Articles.    | 1888.     |            | 1887.     |            |
|--------------|-----------|------------|-----------|------------|
|              | Quantity. | Value.     | Quantity. | Value.     |
| Wheat        | Tons.     | £          | Tons.     | £          |
| Barley       | 1,031,738 | 6,878,960  | 605,387   | 4,090,527  |
| Rye          | 356,680   | 1,543,020  | 263,451   | 893,139    |
| Maize        | 216,251   | 741,437    | 175,113   | 708,087    |
| Oats         | 179,250   | 982,810    | 325,969   | 1,300,383  |
| Sugar        | 60,589    | 293,040    | 23,855    | 83,565     |
| Flour        | 42,405    | 1,156,808  | 43,703    | 1,083,840  |
| Wool         | 18,733    | 197,445    | 30,676    | 396,960    |
| Sundry goods | 3,208     | 228,730    | 6,185     | 661,658    |
|              | 161,628   | 1,491,920  | 271,503   | 2,639,145  |
| Total        | 2,070,462 | 13,514,170 | 1,746,342 | 11,857,304 |

## APPENDIX G.

## NATIONAL ASSOCIATION OF BRITISH AND IRISH MILLERS.

Memorandum of the Council in reference to the Conference on the Impurities in Indian wheat, held by invitation of Viscount Cross, G.C.B., Her Majesty's Principal Secretary of State for India, at the India Office, 8th May 1889.

The Council is of opinion that it would greatly tend to the increased consumption of Indian wheat if it came in a cleaner state to this country, and that no good reason exists why it should not do so.

Indian wheat is at present manufactured into flour by a comparatively few millers, who have large mills and sufficient plant of elaborate cleaning and washing machinery to prepare it for use. If it came cleaner it would be purchased by the smaller millers, who cannot now use it on account of its filthy condition.

It appears to this Council quite absurd to defend on any grounds the useless waste of labour and money in bringing thousands of miles a considerable proportion of dirt and other impurities, which must be eliminated before the wheat can be ground, and which could be as readily and effectually done at the port of shipment or principal centres of collection in the interior of India.

The amount of dirt in the wheat has, however, another hearing on the question. The impurities largely consist of pieces of earth from the threshing floor, impregnated with offensive animal matter, and this, being packed with the wheat in bags, during the long voyage in close confinement imparts to the grain a taste and smell which is very objectionable, and which cannot be removed altogether by the most elaborate and costly cleaning and washing. There appears to be no good reason why the wheats of India should not be delivered into England of nearly as good flavour and sweetness as from other distant countries.

The Council have considered the statements put before Lord Cross by the London Corn Trade Association,

and wish to state that they are not at all in accord with them in this matter, nor do they agree that the views of millers are accurately given in the document in question, which is presumably written in the interest of shippers and not of the public. There can be doubt that the replies from the 510 millers in answer to the questions submitted to them by the India Office fairly represent the opinions, not only of themselves, but of the great bulk of the 8,000 corn millers of the United Kingdom.

It has been argued that millers need not buy on the form of contract issued by the Corn Trade Association, but can purchase on sample on arrival; but, as a rule, millers purchase Indian wheat for forward shipment in order to cover the sales of flour made for forward delivery, and are compelled to use the form of contract or not buy in this way at all. The Indian wheat coming by the Cape is very much purchased for its convenience as "cover," and if the millers so buying are not able to clean it they have to sell on arrival. It is, therefore of great importance that the contract form should be altered, and the proportion of dirt allowed very much reduced.

The Council hopes that the Indian Government will not allow the question to rest until some improvements have been effected, and insist on the wheat being shipped in a cleaner state from the ports of that country, and further trusts that any persons who purposely adulterate wheat with impurities may be dealt with by the criminal law, as the practice tends to injure the quality and flavour of the grain, and to bring into disrepute the produce of a portion of the British Empire, whereby the trade of the Empire is injured, and the grain of foreign countries obtains an advantage in English markets from causes which are largely preventable.

On behalf of the Council,  
R. HARVEY DAW, President.  
J. H. CHATTERTON, Secretary.

61, Mark Lane, London,  
15th June 1889.













